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Vol. XLVI January, 1918 No 1

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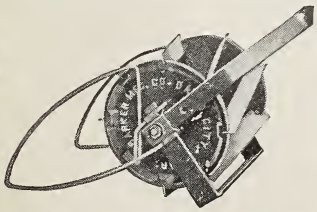

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JANUARY, 1918

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GLEANINGS IN BEE CULTURE
JANUARY, 1918

EDITORIAL

THE NEW YEAR of 1918 opens with very unusual promise for beekeepers. That promise is one of continued high prices for their honey. Those prices now are the highest ever known, and it is not too much to say that they will probably be high next summer—just how high in dollars and cents we cannot say, because so much depends on local conditions. Last season's crop left in the hands of beekeepers and in storage is very small. There is only a little left at the retail stores, and that little will soon be exhausted. If producers last year had secured double and treble what they ever did before, it is our opinion the market would still be almost bare of honey. So even if it were possible to produce that much, prices would still be high and every pound would be taken.

The Outlook and the Opportunity for 1918

The use of sugar is to be cut down by the United States Food Administration still lower to 3 lbs. a month per person, or a little more than one-third the normal* amount consumed. The nations of Europe, so far as sugar is concerned, are in worse condition than we, for while they have sugar, the amount is much smaller than in the United States. Europe is crying for sugar, and must have it. To make up for the shortage she bought honey last season in enormous quantities and by the shipload, and is still trying to get it. She will be eager to get the new crop as soon as it is available.

In addition to the enormous demand for honey by the allies, the old avenues of trade in this country are scouring the country to find honey. Since the war began, and since the wide increase of advertising, honey, so far from being a luxury, is coming to be recognized in this country as a staple article of food. When sugar can be obtained only in limited quantities, honey is the only substitute that can be used, and the housewife is using honey as she never did before and, what is more, honey has gone into her home to stay.

The time was, and not so very long ago either, when the beekeeper who produced his honey had to find a buyer; and even then he had to shade the price down, down, down, in order to make a sale. Today the tables are turned. The beekeepers are staying at home, and the buyers are coming to them. It is not the beekeepers who are shading their prices now. It is the buyers, one after another, who are coming across with more and more money.

Only recently we came across a case where a producer had a little honey. The buyer asked him how much he would take for it. He named an advanced price. The buyer came back, saying he could not pay it, and the beekeeper began to think he had put the price too high. The next mail brought another letter from the buyer, saying he had concluded to take all his honey at the price stated; and so on it goes.

Even tho there should be an early world peace, the price would still be high on everything, including honey. All food supplies are short, and will be for some time after the great war is over.

Taking everything into consideration, it is important that the beekeepers of this country and Canada speed up. They have the greatest opportunity they ever had. They owe it as a duty to themselves, and, more than all else, they owe it as a duty not only to their country and to their allies but to a whole hungry world. As long as the war lasts, sugar will continue to be held down to very small amounts per capita consumption —not enough to supply a balanced ration to each family. It becomes, therefore, a patriotic duty on the part of every beekeeper to help make up this balanced ration, because honey is now a recognized and necessary food, like wheat, potatoes, and meat. It is far more valuable as an energy-producer than any one of those three; and while, possibly, no better than sugar, it is more easily assimilated and has flavor.

In order to speed up, the beekeeper should be prepared. That means he should have his equipment ready, and what additional supplies he needs ordered early. A little later on there will be a greater congestion of freight than now, and it is already bad enough. As freights are slow, the beekeeper will do well to buy of his nearest dealer in order to save long hauls. If he has not already made up his bill of requirements he should do it before the next mail goes out. And even then his supplies may not arrive any too early. The beekeeper who defers

*The per capita consumption of sugar is about 90 lbs. in the United States.

ordering for a month or two may get his supplies too late for the season. As the war continues, the congestion of freight will be even more acute; and supplies delivered as late as April and May may not give the beekeeper time to nail them up and have them ready.

As to what goods he should order, we may be able to give a hint. The demand is going to be ten to one for extracted honey as against comb. Yes, it may be even a hundred to one. While comb honey will bring a higher price than extracted, there have been some instances where extracted has brought as much or even more. It is well to bear in mind that comb honey in large lots must be sold before freezing weather sets in. Extracted can be sold at any time of the year, thus enabling the producer to get the best price available for the whole season. Comb honey is not in demand for export, while extracted is. So we would say to the large producer who expects to sell in a large way, when you make up your bill of requirements for supplies, bear these changed conditions in mind. The small producer of comb honey who is assured of a good market at good prices (probably local) should consider well before changing over to the production of extracted honey. This may apply in a few cases to some large producers of comb honey. In either case the beekeeper will need all the bees that he is able to winter. Even if he winters them all, there will be an enormous demand for bees in package form; and the beekeeper who expects to get bees from the South should place his order at once. It is not always wise to buy from those who quote the lowest prices, for the man who quotes too low is apt to be swamped with orders that he cannot fill till too late, and, in addition, may send stock that is dear at any price.

Be sure to specify that bees are to be delivered not later than a certain date; and it may be necessary to enforce this demand by depositing your check with a local bank of the shipper, with instructions not to honor the check till the bill of lading is turned over showing that the bees have been shipped. It would be well to stipulate also that the check is not to be paid unless the bees are shipped on or before a certain date. In most cases the Northern beekeeper wants his bees shipped in early spring or not at all; and this plan of procedure will keep the money in the bank till the bees are on the way and insure good faith on the part of the shipper.

Sugar for Feeding Next Spring

MANY BEEKEEPERS, whose bees have gone into winter quarters with doubtful supplies of stores, are confronted with this very serious question: If I need it, can I get sugar to feed my bees?

It will be remembered that last fall the U. S. Food Administration took over control of the sugar supply and directed that a family could get only two pounds at a time. Very recently the Food Administration has cut the sugar allowance for domestic uses down to three pounds per month per person, which is only a little more than one-third the normal per capita consumption of sugar per annum.

Many beekeepers last fall found their colonies short of food, and, expecting to feed, were unable to do so on account of sugar shortage. The result was they let their colonies go into winter quarters short of stores, hoping that they would be able to get sugar next spring.

The beekeepers who attended the various conventions of state associations recently held expressed considerable anxiety at these conventions as to whether they would be able to get any sugar next spring. Some expressed the fear that thousands and thousands of colonies would die from starvation.

Mr. B. F. Kindig, secretary of the Michigan State Beekeepers' Association, found in his state that many colonies were put up for winter short of stores, and he wrote us, asking us to get in touch with the powers-that-be at Washington, to the end that sugar might be obtained for the beekeepers. Accordingly, we addressed a note to Dr. E. F. Phillips, of the Bureau of Entomology, inclosing Mr. Kindig's letter, suggesting that he go in person before the Food Administration and explain the situation. We gave it as our opinion that every pound of sugar given to the bees would enable them to turn back 10 lbs. of honey; and we hoped that he would explain to the Food Administration that thousands of colonies would die unless they could have sugar the coming winter and spring. As the time was getting late we asked him to wire us the result of his investigation, as we were about to go to press with this issue. This he did as follows:

Washington, D. C., Dec. 16, 1917.

Food Administration, realizing importance of saving bees, have willingly endeavored to help beekeepers to secure sugar in urgent cases reported, but no announcement of this was made, as shortly after Jan. 1 sugar should be generally available. Beekeepers can save colonies by using hard candy or syrup fed on warm days.

PHILLIPS.

The Israelites of old could not make bricks of clay without straw; neither can the beekeepers make bricks of candy without sugar! But, we infer from this telegram that the Food Administration has in some cases directed that beekeepers, who have written, be allowed sufficient sugar to feed their bees. O. L. Hershiser, of New York state, whom we met at the Toronto convention, said he had no difficulty in getting a permit from the Food Administration to get all the sugar he needed for his bees to keep them from starving. All that Mr. Hershiser had to do was to present a letter from the Food Administration to any grocer or wholesale house, who was thereby authorized to give him the sugar he needed.

We have no doubt, from what Dr. Phillips

writes, that others can do likewise in case there should be a shortage of sugar next spring. The Administration, however, feels that there will be no shortage after Jan. 1, altho some high authorities on sugar say this relief cannot come before Feb. 1 or even later.

Claus Spreckels, in an interview before the Senate Committee, declared that 1,323,000 tons more of sugar had been produced this year than last for the world's usage. He seemed to feel that the shortage was due to too much official red tape. However that may be, and it may well be doubted, we have been told time and again that plenty of sugar was going to be available. As a matter of fact, it has seemed to become scarcer up to this time.

If what President Jager has said elsewhere is true, that there is little or no sugar in Europe, when this surplus that Mr. Spreckels speaks of becomes available it will likely be sent to Europe. In view of the crying need of sugar thruout the world there will be a big and constant demand for sugar, and for honey also.

Altho the U. S. Food Administration has not yet declared a policy or method of procedure in furnishing beekeepers with sugar necessary for feeding their bees, yet we believe that this will be done. The governments of both France and Switzerland have attended to providing for the needs of beekeepers in those countries for sugar. It is in no way probable that the United States Government will be so shortsighted as to do otherwise.

The Demuth Method of Wintering

WE HAVE TAKEN in practically the entire series of state conventions, comprising Illinois, Ohio, Western New York, Michigan, Iowa, Minnesota, Wisconsin, and Ontario, Canada. At each of these conventions we carried along one of those inner cases as described in our last issue, page 921. Contrary to what we had expected, the largest beekeepers believe that there is much in that method of wintering, and thought it well worthy of a trial.

We learned in Michigan of one man who had tried it, and found it to be successful; but his objection to it was the work of packing and unpacking.

At other conventions we encountered the question as to whether a ten-frame colony could be squeezed down to seven frames; and others expressed a fear that it might be necessary to give the bees more room for brood in the spring, before it would be wise to unpack.

Chalon Fowls, of Oberlin, Ohio, to whom we have often made reference, would overcome the last objection by making the inner case capable of holding eight instead of seven frames, as shown in our December issue. He thinks a ten-frame colony could be squeezed down to eight in the fall, and an eight-frame would leave all the room that would be needed for brood up to the time of unpacking. He admits, however, that he prefers a seven-frame capacity, provided there was a chance to give sufficient room in the spring. It might be advisable for the beekeeper who proposes to winter by this plan next fall to make a thoro trial of both seven and eight frame inner cases, to determine which is better adapted to his needs.

Honey and Other Sweets in Europe

IT WILL BE remembered that some time ago Francis Jager, Professor of Apiculture in the University of Minnesota, and also President of the National Beekeepers' Association, was sent to Europe by the United States Government as a deputy commissioner to investigate the Red Cross conditions in Servia. As he speaks nearly all the languages of Europe he was eminently fitted for the job. In our last issue we announced that he was about to return. He arrived home only a few days ago, and we had the pleasure of meeting him at the Minnesota beekeepers' convention where he told us something of the conditions in Europe.

He is now a commissioned officer with the rank of major, wearing the uniform indicating that rank. It would be impossible, he said, in explanation, to go anywhere in Europe without a commission and a uniform. One of the questions we asked was how honey was selling in Europe. In answer he exhibited some samples he brought home of what he was sure was American honey, judging it by the color and taste. He showed a half-pound jar that was selling at 55 cents, and pound jars for $1.10 retail, and they were very much in demand at that. The honey was of good body and flavor, some of it mountain sage, some of it clover, and some from other well-known American sources.

As to what the nations of Europe are using in the shape of sweets or sugar, he said that the German population had no sugar of any sort, and were using saccharine. This has absolutely no food value, and, we are told on good authority, is a cumulative poison. The allies were using some saccharine, but they had a little sugar at the hospitals and at some of the barracks; but honey was the real sweet* which any one could buy, providing he had the price.

There is no prospect, according to Professor Jager, that the great war will cease for two or three years to come. The conditions there, he says, are indescribable, unbelievable; that we in America know nothing of the

* It should be remembered that Professor Jager was in Europe when there was a sugar shortage. Whether the situation has since been relieved, as would be indicated by the statement of Claus Spreckels, that there was no shortage, we do not know.

suffering and privations thruout all Europe.

He told of one beekeeper, whose name we have forgotten. This man had been driven out of house and home. He gathered together a few bees and established a little apiary. He also built a little shack of a building that he called home, when—bang! a shell struck his premises, tore up his little apiary, scattered the hives right and left, and tore out the whole side of his house. Said Mr. Beekeeper, "Look at those bees. What a mess I have got!" And then Jager significantly remarked, "He never said a word about the damage to his house—it was only of those blessed bees that he lost. That man," said he, "is a real beekeeper, and we ought to make him a life member of the National Beekeepers' Association."

Professor Jager was expecting to go on to Washington within two or three days to submit his report.

Direct from the U. S. Food Administration

SINCE THE ARTICLE on page 10, entitled "Sugar for Feeding Next Spring," was written and printed, we have received from the U. S. Food Administration a telegram in reply to one of our own asking just what beekeepers could expect from the Food Administration in case sugar be needed for feeding. This telegram reads as follows:

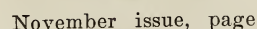
Washington, D. C., Dec. 21, 1917.

E. R. Root, Editor GLEANINGS IN BEE CULTURE, *Medina, O.*:—

Food administration has endeavored to help beekeepers secure supplies of sugar in urgent cases reported. If sugar is not absolutely needed at this time to keep bees alive, would prefer that purchases be deferred. Sugar should be available in sufficient quantities after middle of January or first of February so that beekeepers should experience no trouble securing sufficient quantities to meet their needs.

U. S. FOOD ADMINISTRATION.

While this direct word from the Food Administration to the beekeepers is not specific as to just when and how beekeepers can secure sugar for feeding, it implies clearly that their sugar needs will be met. With the expectation that the sugar shortage will be relieved within a month, the Food Administration asks only what is reasonable in suggesting that beekeepers at this time defer their sugar purchases just so far as possible. Don't buy sugar for feeding until absolutely necessary—then the U. S. Food Administration will help you.



Queens for Export Not Fumigated

IN OUR November issue, page 830, we mentioned some of the difficulties in getting queens thru the mails to foreign countries, and how successful shipments were below the average of a few years ago. Among other things it was suggested that perhaps the fumigation of mail matter to foreign countries to prevent the spread of disease in the human family might be the reason why the percentages of losses were greater than formerly. We took the matter up with the Postoffice Department at Washington, inquiring whether packages of queen-bees to foreign countries were fumigated either before leaving this country or on arrival at point of destination. The following letter from the Department will explain:

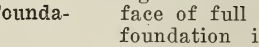
Second Assistant Postmaster General,
Division of Foreign Mails.

Mail-sacks are not subjected to fumigation at this office previous to despatch to foreign countries, and, as far as is known, no disinfection occurs at destination. It is believed the death of the bees may be due to detention of mails abroad, probably while awaiting examination by censor. J. G. PATTEN,
New York, N. Y., Oct. 26, 1917. Postmaster.

Air ("free as air") for Running Automobiles

JUST AS WE go to press with the last side of the last form we receive a letter from A. I. Root, now in Florida. He, as our readers will remember, has been working on the possibility of making the trade winds of Florida drive his automobile instead of using gasoline. He has been having some extensive correspondence with the Wind Electric Co., of Wyndmere, North Dakota, that builds windmills for charging storage batteries large enough to drive an electric automobile. The result of this correspondence is shown in the letter below.

On this 18th of December I have just received a telegram to the effect that my electric windmill for charging the batteries of my electric auto will be shipped *at once* from Wyndmere, North Dakota, and that the inventor will come with it to see that it is properly installed. Of course I am happy. I will tell you about my garden and chickens later.



Painting Foundation with Hot Wax

J. W. TINSLEY, Ames, Ia., at the Iowa convention, reported that he had tried painting hot wax on the surface of full sheets of foundation in brood-frames, and that he had found the result to be very satisfactory. He had tested out both painted and unpainted, and found the former showed no stretch of comb in drawing out. He uses enough hot wax to make the sheet weigh about 50 per cent more.

Considerable discussion followed, some of which showed that this method was rather wasteful of wax, at present high prices; and that the use of more horizontal wires near the top of the frame would prevent all stretch or sag. Beeswax is expensive; and if we can prevent sagging by any scheme of wiring we are that much ahead, because fine wire is inexpensive. Moreover, a frame well wired will hold the comb in place, no matter how much rough usage it may receive in shipping or in the extractor.

EDITORIAL ANNOUNCEMENT

A Boiled-down Summary of the Valuable Points in my Life and in Gleanings in Bee Culture for the Past Fifty Years

Perhaps I should explain to our readers that Huber has been hard at work with me in making the material for a book that will contain a review of my life and the problems in bee culture that have been thrashed out during the past 50 years or more; for we have included the writings of "Novice," as I was called at that early day, taken from the American Bee Journal where they were published several years before Gleanings was started.

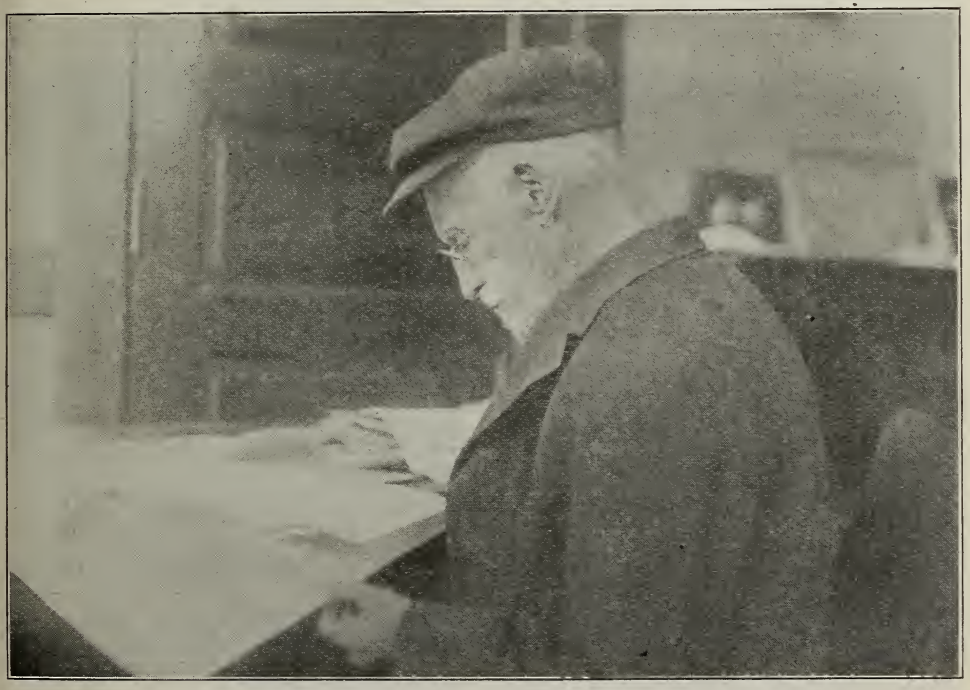
Between 1873 and 1876 I made many experiments in regard to feeding. I even went so far as to feed a whole barrel of sugar to a colony—of course late in the fall after honey had ceased to come in. I also, at the same time, made experiments in chaff packing, and brought out what I called my chaff hive. It was during these early days, too, that I was making experiments with the first all-metal honey-extractors and the "one-pound" sections.

Below is a sample of some of the conclusions that I came to at that early date. I give place to it here to show how my whole mind was focused on the bees. You see that even then I was advocating the let-alone plan.

"Of all the blunders in bee culture, I feel that there are few greater than fussing to get the honey out of combs where it is nicely sealed up, and then fussing still more to get it back again in the same combs. I would even give up feeding whenever possible. Why, just think of it! the best colony in my apiary in the spring of 1876 had not had one minute's time expended on it for the previous six months. At that rate one person could take care of a thousand hives until the time for surplus honey comes."—Gleanings, p. 130, 1876.

At the present time I cannot tell you just when the publication of this story of my life and work will be begun. It will be printed serially in Gleanings first and then brought out in book form. You may rest assured, however, that as a book it will be offered very low (considering the amount of valuable matter) to the readers of Gleanings.

A. I. ROOT.



A. I. Root reading the last pages of his autobiography in November, 1917.

INEXPENSIVE WINTERING

An Ordinary Hive Packed Inside of a Long Idea Hive; also a Regular Hive on End, Inside of Three Supers

By E. R. Root

IN these columns we have frequently mentioned the Long Idea hive as used by the late O. O. Poppleton, of Stuart, Florida — a hive that has 24 or 30 brood-frames all in one story. The advantages of this hive have been pointed out—it has a large capacity, and during the season there is no heavy lifting of supers such as one encounters when running a three-story standard Langstroth hive on the tiering-up principle. It will be remembered that Mr. Poppleton used this hive because, as the season progressed, he could expand the brood-nest without putting on upper stories, so that during the entire extracting season it would not be necessary for him to lift anything heavier than a brood-frame or a hive-cover. A number of writers have suggested that this big horizontally expanded hive with only one story would be excellent for wintering. All that is necessary is to select in the fall of the year the heaviest and best combs, contracting the brood-nest down to about eight combs. These are then put into an eight-frame hive-body or an inner case set lengthwise in the big horizontal hive as shown in Fig. 1. A suitable bridge or covered runway connects the inner and outer entrance which may be at the side or the end. The illustration, Fig. 1, shows the entrance at the far end of the hive.

An ordinary super-cover covers the inner hive, then packing material is poured between the outer and inner hive. There must now be provided a shallow super made of cheap lumber to go on the top of the outer hive, and to hold the packing on. (See Fig. 2.) This gives us a colony well packed in a double-walled hive; and beyond the shallow rim, to told the packing on top, there is no other equipment required provided one already has eight or ten frame hives. If he does not have these, he can make an inner case. In either case the expense of packing bees is very small.

The colony can be left in the inner hive till late in the spring or until the bees begin to need room, at which time they can be unpacked and the inner hive removed, when the frames are turned around the other way and additional combs given. The outer entrance and the outer appearance of the hive remains just the same.

With this hive, the beekeeper is in a position to expand the brood-nest as much as he pleases during the entire season without any heavy lifting—a feature that will be appreciated by women and older men who cannot very well lift the heavy supers of the ordinary ten-frame hive.

We are trying some colonies on this plan, and shall be able to give our readers a report next spring.

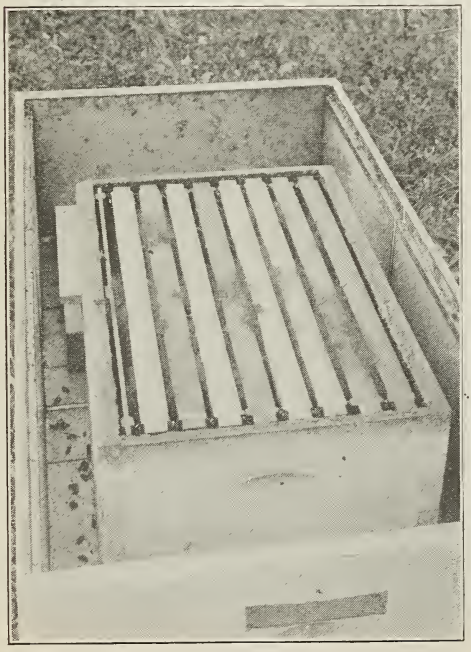


Fig. 1.—Long Idea hive serving as a winter case for a single-walled eight-frame hive.

Fig. 2.—Front view of the Long Idea hive with an extra rim set on to hold sufficient packing.

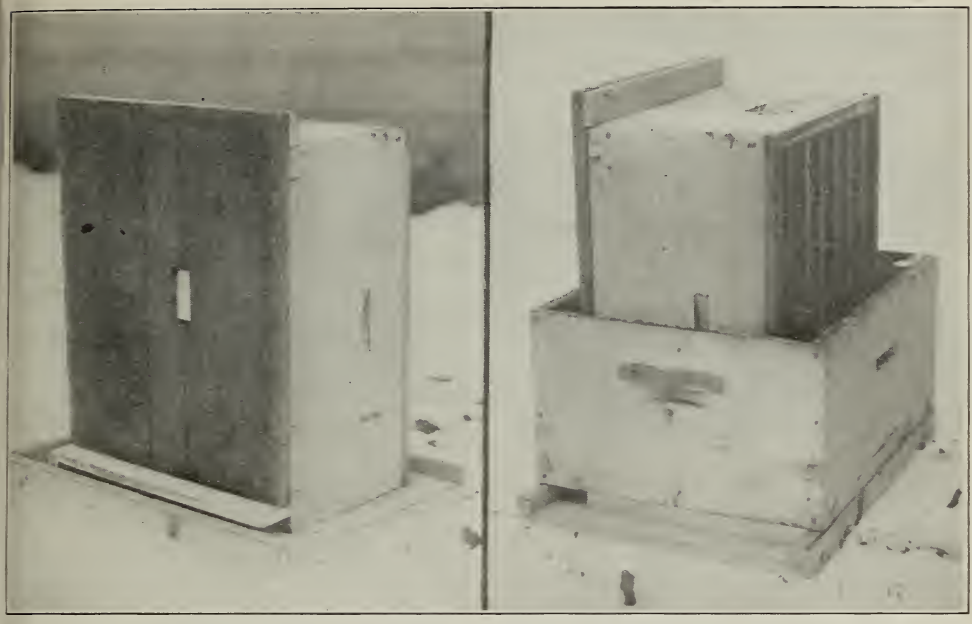


Fig. 3.—Ten-frame hive standing on end with a super-cover tacked on the bottom and a queen-excluder on the top. Before nailing, the super-cover is slid up enough to make an entrance at the lower end, then a cleat is nailed on as shown, to support the packing.

THE MODIFIED DEMUTH PLAN OF WINTERING.

At the Ohio state convention at Lima, the secretary, Ernest Kohn, after hearing our description of the Demuth plan of wintering as illustrated on page 921, December, asked why we needed to have a special inner case at all; he mentioned using an eight or ten frame super and standing it on end in another hive-body in such a way that it would leave a packing-space on the sides and one end. What he was driving at will be more clearly illustrated in Fig. 3. His idea is that without making any special device or inner case, one may utilize the material already present in a well-regulated extracted-honey apiary. On coming home we arranged the combination as shown in Fig. 3. The brood-nest was lifted off its hive-bottom and an empty hive-body put on in its stead. On the top of the brood-nest was tacked a queen-excluder, after nailing two 5/16-inch cleats between the excluder and the frames to hold the latter in position. See Fig. 4. The bottom of the hive-body was covered with a super-cover or bee-escape board made to project beyond one end about two inches, and then tacked in place. The purpose of this is to provide an entrance way to the bottom of the frames so the bees can get out. At the sides and top of this opening was tacked a strip of wood to prevent the packing from closing up the inner entrance. The whole thing is then placed on the regular bottom-board and then shoved tight against the front end of the hive so that the frames are standing on end and crosswise of the outer hive. Common forest leaves are now packed in around the sides and back of the inner case now on end. Another hive-body is then put on, and more leaves packed in. Last of all, another hive-body or a shallow super is put on top. This is likewise filled with leaves.

It will be noted that Dr. Kohn's scheme of wintering requires no other equipment than that found in the regular extracting apiary. If one had an extra super-cover he would not need to use the queen-excluder; but the queen-excluder will hold the packing away from the top of the frames just as well, provided leaves are used. The excluder would not be satisfactory if sawdust or fine shavings were used.

We see no reason why this scheme of packing should not be very satisfactory for wintering; but in order to get the best results, the super should be placed on end about the first part of September so the bees may begin forming their winter case.

There is one serious objection to this method of packing. It is impossible during the fall or spring to get at the inner brood-nest for the purpose of seeing the queen and the amount of stores, unless one unpacks the whole hive.

In the fall, this trouble might be avoided by using the super-cover, at the top and bottom of the inner hive before standing it on end. Then the bees could be left unpacked until cold weather. Just prior to this the inner hive could be lifted out, stood up in its former position, and the frames examined.

It should be noted that the entrance pas-

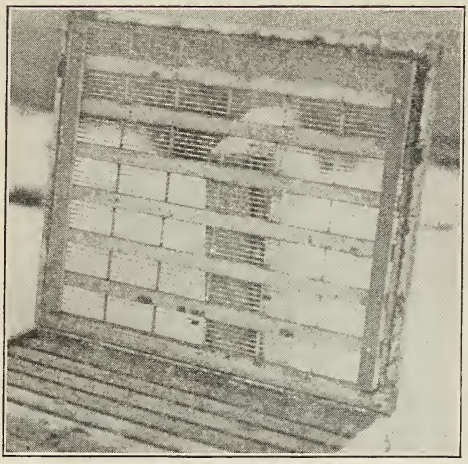


Fig. 4.—Before nailing the queen-excluder on the hive two cleats are tacked across to hold the brood-frames in position.

sageway of a hive packed thus will be rather devious, for the entrance of the inner hive is opposite the side of the outer hive. The bees will go in at one corner, pass along for a distance of a few inches, and then turn to the right under the frames now stood on end.

Whichever of these two methods is used, we should be glad to see tried out in different localities this plan of wintering with frames on end. The first allusion we find to this style of wintering is by Moses Quinby in the American Agriculturist, p. 447, Dec., 1870. The following is the plan as there given:

"For the benefit of those using the Quinby hive, or any other hive in which the frames are supported by the bottom-board, I wish to say now that they may be arranged for winter with but very little trouble, and combine all the advantages of the straw hive, with many others, for outdoor wintering. First, prepare the bottom-board by securing ventilation thru it in such a manner that it will not become obstructed by any dead bees that happen to drop. Then arrange a passageway for the bees from near the center to the outside entrance. Next get out a strip, one inch by 1½, one foot long, and nail a strip of hoop iron on one edge, projecting ¼ inch. This will support the frames in the same manner as usual. Lay this across the bottom and set one end of the frames on it, hooking fast to the hoop iron, keeping the same relative position of combs, and all the frames will stand just the other way—across the hive—and be about four inches from every side of the hive. Cover the top of the frames with canvas, and then fill with soft straw, hay, or chaff, or even dry sawdust, closely packed, even full. Open one of the ventilators near the top, and all the moisture will pass so very slowly thru the straw that most of the heat will be retained near the bees; and if they are in good condition to start with they will be not only safe but very comfortable all winter."

250 LONG IDEA HIVES

Some of the Advantages of Hives Capable of Horizontal Expansion Compared to Standard Hives

By Freeman E. Reeder

WE have now used the Long Idea hive for a sufficient time to make us quite certain that we shall like it. Two hundred and fifty colonies is the greatest number we have ever had; but we should like to have three hundred in this style of hive next summer.

When the queen is old, and the surplus combs contain drone-cells, we are obliged to use excluders. Ordinarily we keep the brood-nest in the center of the hive, use two division-boards, and give the colony room whenever needed. It is always easy to give more room, as there are thirty-two frames, 1½ inches from center to center. Near the close of the honey season we shift the few remaining combs of brood and honey and give the bees a comb to catch any last dribble of honey that may be gathered.

We do not attempt to produce much comb honey with this hive, altho it is possible to do so by using wide frames to hold the sections and keeping one frame of foundation next to the brood. Or if desired a super may be used directly over the brood-nest, and shifted later to one side for the bees to cap.

Swarming is still a question, altho we think we are better prepared to handle this problem with the Long Idea hive than with one that must be tiered up. We certainly are saved a great deal of heavy lifting. With our old hives, giving room in the spring always used to bother me; but not so with these hives in which one or more combs can be given at pleasure. The inside covers are in three parts; and it is a simple matter to give them ventilation above. In addition to the ventilation we find young queens and plenty of comb room helps to keep down swarming.

Unless we were able to move our bees we should be compelled to go out of the business entirely. We have found an easy way of moving, even with this size of hive. Before the time to start, the bees are prepared by

Long Idea hives with a vengeance. Freeman Reeder, Fisher's Ferry. Pa., has 250 of them in use.

putting the combs with adhering bees into carrier boxes which are set inside of the hive until the bees have settled. The boxes are then screened, the entrances closed, and the carrier boxes are ready for moving. If the hives are made of light stuff it is very easy to load and unload them. One evening we moved twenty large hives on a hay-rack, which seemed just about the right conveyance for this purpose.

Since using the Long Idea hive it has seemed to us that the bees work differently, and also behave in quite a different manner. We think that they sting less, and that they are driven from one end of the hive to the other very easily and with little smoke.

For wintering we pack the hives. This is short work—two chaff division-boards, one cushion, contracted entrance with stormhood, and all is completed.

FREEMAN E. REEDER.

Fisher's Ferry, Pa.

FEEDING WITHOUT ROBBING

Why is there Danger from Robbing in One Instance and no Indication of such Trouble in Another?

By J. L. Byer

IN Gleanings, March, page 178, I read with considerable interest that article by Mr. Bartlett, entitled, "From one Colony to 532." Twenty-two years ago Mr. Bartlett started with one colony, and just 22 years ago last May, the first colony I ever owned was bought for me at the sale where all my great-uncle's apiary was disposed of. For the next few years I was working on the farm of 150 acres, and found little time to devote to bees—in fact, it was five or six years after buying that first colony that we definitely decided to try to make a living from bees.

It is a generally accepted truism that "comparisons are odious;" but in so far as I shall do any comparing, the advantage will all be in favor of friend Bartlett, so I think he will bear with me in my comments on his article.

First of all, I would say that the whole spirit of the article impresses one with the idea that the author is an up-to-date business man, with neat and efficient apiaries, and every thing spick and span. The exact number of colonies, "532," shows precision. Honestly, I am not sure within a dozen or two just how many colonies we have; but I would know on my first visit, if any were "lifted" from an apiary. Score one against me for carelessness on this point. "I try to keep my apiaries spick and span." I am afraid that I don't do this, or at least I don't try hard enough, for our apiaries certainly are not always pretty to look at.

"Honey-houses in a presentable condition." Here again we plead guilty to not coming up to that ideal; for often in the rush of the season our honey-houses are not in shape to receive company.

"I won't have a leaky cover or old rotten hive." These are sound business principles as claimed by friend Bartlett, without a doubt; but once more I fall down lamentably, as we certainly have quite a few old hives and possibly — no, probably — a few roofs that leak more or less. While it is true that, with over 700 colonies, at least 600 of which are still in the second-hand hives in which they were bought, a fair excuse might be given for having old hives;

yet I do not try to justify their use—what is the use when nobody would treat your excuse decently, even if you made one? In justice, tho, I would say that at least 500 of my hives are practically as good as new, and the other 200 yield just as much surplus per colony as their better-housed neighbors.

Having said all this by way of introduction, I now come to the main point in the article—in fact, the only point that is not at all clear to me. With perfect hives, a uniform equipment, and an excellent manager, why did Mr. Bartlett have trouble with robbing during fall feeding when using the Miller feeder? Dozens of beginners and others have written me on the subject of feeding for winter stores, and I do not believe that I ever cautioned a single one as to any particular danger that might arise from robbing.

For fifteen years at least, we have each fall had to do some fall feeding. Some years thousands of pounds of sugar have been fed. With a mixed equipment in way of hives—good, bad, and indifferent in so far as the state of repair is concerned, and using Miller feeders with square boxes about four inches high holding about twenty pounds each—never once did we have a case of robbing if we except a single case of "peaceable" robbing in the home apiary two years ago. Our Miller feeders hold about twenty-five pounds each; and since we do not have enough feeders at each yard to feed the whole apiary, we generally feed two or more yards at the same time, alternating visits every other day. While we prefer to do the feeding in the evening, yet if that time is not convenient we would not hesitate to feed at any time in the day.

NO ROBBING EVEN WHEN THERE'S A LEAK.

A few years ago a friend of mine who farmed and also kept quite a nice little apiary, decided to take a trip to Europe. As he would be away till November, he asked me to feed his bees for winter. A fall flow was lacking that season, and much feeding was necessary. Altho busy, I promised to help him out; and before he left he provided all the sugar needed, telling me not to spare it. During a hot spell in September I fed all those bees with Miller feeders, doing the work in the early afternoon, and then going to one of my own yards to feed before coming home. Never was there the slightest trouble from robbing under those conditions, and every colony came out in rousing condition next spring; for, needless to say, I made them heavy enough.

In feeding, more than once I have had feeders leak at first and even run out a little at the entrance. But even then no robbing was ever done—at least I never found a single colony injured in any way. On rare occasions I have had bees get in at the top of the feeder, but this also never resulted in robbing. Truly I am at a loss to explain the difference in this matter, and would welcome any help in that line. Friend Holtermann once told me that, with packed hives, robbing was less in evidence, as bees are more loath to go thru the passage to the inside of the hive, since the guards have a better chance to keep out intruders. Our experience has been mostly with packed hives until the last few years, during which time we have used the inverted friction-top pail with punctured lid—a feeder that is even better in our estimation than the Miller, which was previously our favorite. As Mr. Bartlett feeds very early in the season, while we cannot feed till September, owing to the fact that the supers are not off till then, I at first thought that the difference in time of feeding might explain his trouble. But this is not sufficient cause; for some years ago, when we thought that there was something to be made in the plan of feeding back extracted honey to fill out sections, we diluted honey and used it freely in Miller feeders, yet no robbing was ever noticed.

With all the bees we have handled, with various kinds of hives, many colonies being bought and transferred into other hives, only once have we lost a colony by robbing, and that was at the Cashel apiary last September. One very warm day in September, we happened to be in the apiary and found in the honey-house half a dozen or so supers taken off after clover flow, which were wet from the extractor and showed signs of moths. Three colonies were each given two of these wet supers, and we left the yard a few minutes later, all being quiet. Two days after, calling at the yard again we found that one hive that had been given two of these supers was completely cleaned out. In fact, the brood-combs were torn to pieces and piles of the riddled combs were all around the entrance of the hive. The two other colonies had not been touched. I can not explain the matter more than to say that this hive was in the extreme corner of the apiary; and because of its being the corner hive attention was given to it by the bees. This was the reason ascribed by E. R. Root when I showed him the hive and told its history. Strange to say, altho the combs were riddled, the queen with about half the bees was still alive when I found them. A comb with honey was given; and, later, four more combs, and then they were fed for the winter. In the spring they were alive but weak.

This article has not been written to criticise Mr. Bartlett in any way, but simply to get some ideas as to why we should have such a difference in results. Are we going to ascribe it to locality, strains of bees, or what? Locality can not have a bearing on the case; and as to bees, I believe we have handled about all kinds—at least all produced on this continent. If there is general danger from robbing when feeding, then all who ask me for advice, I would certainly counsel to be very careful in this matter.

Markham, Ont., Can.

FROM THE FIELD OF EXPERIENCE

Conversations with Doolittle

"Would it be advisable to take up bee culture in preference to some other line of agriculture? In fact, I have quite a leaning toward beekeeping as an ideal pursuit."

Occasionally a man gets "bee fever," and in his haste to get into the business he spends a lot of money foolishly, and does many things which are unprofitable. After he gets nicely started he meets with losses, becomes discouraged, and makes a sacrifice to get out of the business, or else takes up some other business along with beekeeping. Any one who finds himself on the verge of any of these lines of action would do well to ponder a little over the matter before rushing into an untried thing or rushing out again on account of a few reverses. My advice would be to those who have mastered some other branch of agriculture, or some other business, and are doing well in it, not to take up beekeeping for the purpose of making money out of it. It would be better to invest more time and capital in the business you are already in than to take up something new. Talking with a beekeeper some time ago who had been successful in the business, he told me how he had become interested in sheep-raising, owing to the high price of mutton, and thought strongly of starting in the business, as he had some land that was well adapted to sheep; but after more thought and deliberation he decided to enlarge his bee business instead, rather than take up something in which he had had no experience; and having thus decided he found himself possessed of a good crop of honey this fall, which, with the better price, gave him an advantage which he might not have had if he had entered any other business with which he was unacquainted.

The case is different with those who wish to keep a few bees for pleasure or pastime, or as a rest from mental labor. The question has been asked, "Is it best for one to work a season or two with an experienced beekeeper or go ahead and learn by experience?" The school of experience is all right, but the tuition is often exceedingly high. If one knowing nothing about beekeeping is determined to take it up as a business I think it would pay him well to work a season or two with a successful man, even if he has to pay for the privilege. But if this successful man needs help, he is usually willing to pay fairly good compensation for a man who is "handy" and willing to work.

Three items are very necessary in a practical understanding of the business in question —study, observation, and practice. Every beginner should procure one or more standard works on bee culture and study them until he is familiar with the rudiments and the first principles which must sooner or later enter into a successful career. By observation I mean the keeping of one's eyes open to every little item and making note of what is seen. Practice alone can make a benefit of the theoretical knowledge thus gained. Then comes the question, "How many colonies should a beginner procure?" I started with two and increased only one, as the season of 1869 was a poor one. After a score of years with the bees I became more able to care properly for two hundred than I was that first year to care for the two. So I would say that it depends upon how much one knows about the business and how much time in reading, observation, and practice he has put into it. It is a good and safe way to start with a very few colonies; give them the best care possible, and make them pay for all expenses incident to increasing the plant. Thus, besides the first expense of starting, one is nothing out except his time; and for the loss of time he is compensated by the knowledge gained.

The question is often asked, "How much honey will a colony of bees produce in one season?" It might as well be asked, "How many potatoes will an acre yield?" There are many conditions to be taken into account. To give a sort of general idea, an average of fifty pounds of surplus comb honey per colony each year for a term of years would be considered fairly good returns. If extracted honey, seventy to seventy-five would be a fair equivalent. But this is for the one who has been in the business for several years, and such as occupy favorable localities. As far as individual colonies are concerned I have had yields all the way from nothing up to 309 pounds of comb honey, and from zero up to 566 of extracted, in a single season. Until the price of lumber caused the most of the basswood trees to be cut, my yield in good seasons was about 100 pounds of surplus per colony, spring count, for the whole apiary.

It is well to remember that, as a rule, a small number of colonies can be made to produce relatively much larger yields than a larger number; therefore don't be led to the conclusion that you can make a great fortune out of an extensive bee business because some one has reported making $20 or even $40 from a single colony in one season. I do not wish to discourage any one. What I want is to dispel the delusion that there is a "get-rich-quick" possibility in apiculture. Such enthusiasm invests too heavily on the start, and, meeting with severe losses, finds a lot of useless hives and fixtures on hand. I advise going slow at first. Industry and grit will win in this business as in any other.

Borodino, N. Y. G. M. DOOLITTLE.

FROM THE FIELD OF EXPERIENCE

Bird Flowers often Listed as Honey-plants

Bird flowers illustrate well the importance of knowing something about the structure of flowers and their pollinators before deciding whether they are good honey-plants or not. The fact that a flower contains an abundance of nectar does not prove that the bees can gather it. Not long ago I found the cardinal flower listed as a good honey-plant, while about two years ago there was published in Gleanings a small picture of the redhot-poker plant, which was reported valuable by a New Zealand beekeeper.

Hummingbirds, which are found only in the Western Continent, are the only birds which are of much importance in the pollination of flowers in North and South America. The ruby-throated hummingbird is the only species known in the United States; but in tropical America more than 500 species have been described. While they are most abundant in western Brazil, a hummingbird has been seen visiting in a snowstorm the flowers of fuchsia in Tierra del Fuego, and northward they are reported from Sitka. On the Andes Mountains they live at an altitude of 16,000 feet, in a region where there are frequent storms of sleet and snow.

The best-known bird flower in the United States is the cardinal flower (Lobelia cardinalis). No more brilliant red or scarlet hue occurs among flowers. As a rule, bird flowers are always red—a color supposed to be preferred by hummingbirds. The cardinal flower is frequently visited by hummingbirds, which, with perhaps the exception of a few butterflies, are alone able to reach the nectar from the front. The corolla tube is about an inch long; but in the older flowers the petals tend to split apart and become separate. Bumblebees sometimes steal the nectar thru crevices in the side of the flowers. The three lower petals, as the photograph shows, are bent downward where they will not be in the way of the birds when they poise on the wing before the flower. It will also be noticed that the corolla is usually split to the base on the upper side. (Fig. 1.)

There is another species of lobelia called the blue lobelia, or blue cardinal flower, which has blue flowers and is a bumblebee flower—that is, it is pollinated by bumblebees. When the two different kinds of lobelia grow side by side it has been observed that hummingbirds pay no attention to the blue flowers but restrict their visits to the red ones, while the bumblebees pursue the opposite course and visit only the blue blossoms.

The redhot-poker plant, or flame flower (Knifphofia aloides) is a native of south Africa, but is everywhere cultivated. Look at the photograph and note the long tubu-

FIG. 1.—Cardinal flower (*Lobelia cardinalis*). A bird flower.

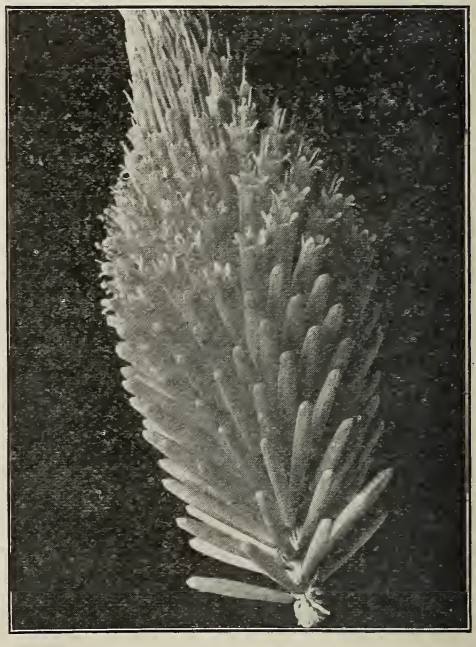


FIG. 2.—Redhot-poker plant (*Knifphofia aloides*). A bird flower.

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lar flowers adapted to the long bills and tongues of flower birds. As there are no hummingbirds in Africa the flowers are visited by another family of birds, the sun-birds, which in size, form, and color resemble hummingbirds; but when sucking nectar they perch upon a stem or leaf instead of poising in the air. Nectar is secreted copiously at the bottom of these tubes; but to honeybees it is "forbidden fruit." Sometimes a honeybee literally stakes its life in the attempt to obtain it, and creeps into a tube where it sticks fast and perishes in sight of the sweet booty.

The trumpet or coral honeysuckle (Lonicera sempervirens) is clearly also a bird flower. The corolla is scarlet outside but yellow within. From these trumpet-shaped flowers no honeybee can add to its stores. The scentless flowers are pollinated by the ruby-throated hummingbird. (Fig. 3.)

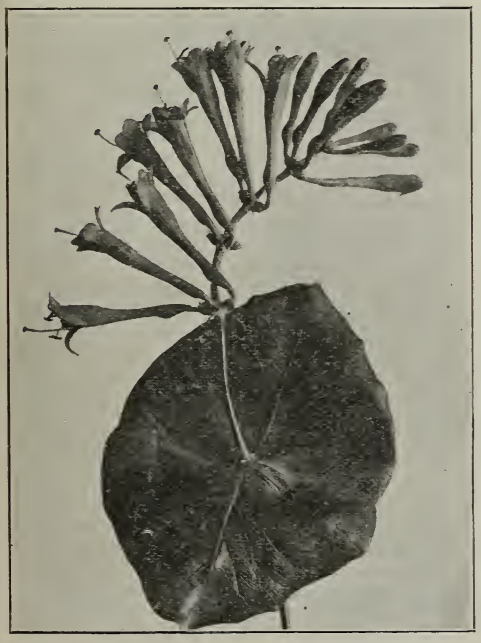

FIG. 3.—The trumpet honeysuckle (*Lonicera sempervirens*). A bird flower.

As we have only one species of hummingbird in the United States the number of bird flowers is comparatively small. Three well-known species are the trumpet creeper (Tecoma radicans) with a funnel-shaped scarlet corolla 2½ inches long; trumpet flower (Bignonia crucifera), which has a corolla two inches long; orange red, and yellow within; and Carolina pink (Feiglia Marylandica), also scarlet outside and yellow within. Several species of scarlet sage, cultivated from Brazil, also have corollas two inches or more in length, and are pollinated by hummingbirds (S. splendens and S. fulgens). The wild balsam, or touch-me-not (Impatiens biflora) is by some regarded as a bird flower; but it is much more frequently visited by bumblebees than by birds. It is, therefore, a bumblebee flower. The same is likewise true of the wild columbine. Hummingbirds, of course, visit a great many flowers which are not at all adapted to them, as any reader may observe another summer.

In tropical America, especially in Brazil, hummingbirds are so numerous that they play an important part in the pollination of flowers. The majority of flowers is visited by them; and as they are on the wing thruout the year there are times in the rainy season when they are almost the only visitors. Bird flowers are much more abundant here than in North America. Besides feeding upon nectar, hummingbirds, contrary to the general belief, also feed upon small insects which they find about flowers. The hermit hummingbirds, indeed, live wholly on insects. It was the search for insects which first led the ancestors of this family to examine flowers, and, later, to become nectar-feeders.

Hummingbirds (Trochilidae), which visit highly colored flowers, exhibit the most brilliant and varied hues to be found among birds. They have not unfittingly been called bird jewels, for they display all the vivid iridescent crimsons, yellows, greens, and blues found in precious stones; and in the sunlight they glow with a metallic brilliancy that defies description. Sometimes a single species exhibits three or four colors. The habit of visiting flowers seems to have given rise in some indirect way to this brilliant coloration. In Africa and the East Indies flowers are visited by sun-birds (Nectariniidae), which closely resemble hummingbirds, but are an entirely different group of birds.

Waldoboro, Me. JOHN H. LOVELL.

The Other Side to Florida Beekeeping

During the last few years I have had many letters from beekeepers of northern states asking for information relative to conditions in this part of Florida. Many come to investigate; a few have called upon me, and have seemed disappointed because I would neither offer them encouragement nor point out locations where success in beekeeping would be assured. They cannot understand that location is everything in Florida, and that a distance of five miles, or even two, may bring conditions which will make for success or failure. The state ranks high as a honey-producer in the government

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crop reports; but these reports should not be considered as a standard of production, for the figures are made up principally from the reports of large producers in especially favored sections; and the reports of others who speak loudly of their successes, but never of their failures or small returns. We must not forget the tendency of the people to "boost" Florida without regard to the fact that very many of those who are "boosted" into Florida are in a short time found not among the "boosters" but the "busted."

The bee-journals also are to blame; for in them one finds nothing but reports of big crops and mention of "ideal locations" in vast areas of palmetto or other forage unoccupied by beekeepers. I do not think it possible for any one to be certain of a good location until he has kept bees on it for several years. Of course, this is not true for the migratory beekeeper, who is not tied down to one location. That phase of beekeeping I cannot discuss at present, tho I believe there are great possibilities in it. But the letters I receive, and to which this is my answer, are all from men who wish to keep bees in the same place the year round, and who seem to think that here in the land of "Florida sunshine," with no wintering problems, we have a regular bee paradise.

Have we? Yes, during a good flow from orange; at other times, most emphatically, No!

I am speaking of this immediate neighborhood—the orange country around Orlando, and the conditions found here are common, with certain locality modifications, in almost all of Orange and Lake counties. Of course there may be a few favored locations where conditions are enough better to prove the exception to the rule. Perhaps DeLand is one such, for we hear nothing but good from that place; but, taken as a whole, my remarks will hold good for most of the orange locations in middle Florida.

Many beekeepers are attracted by thoughts of making big crops of orange-blossom honey, and there are certainly very many splendid locations near large areas of citrus groves which are entirely undeveloped by our beemen. But, Mr. Northern Beekeeper, go slow if orange honey is what you are after, what you hope for, and figure on for your main support. It is our main support, and we have made as much as 150 pounds per colony from it. But how many paying crops have we had since the freeze of 1894? You can count them on the fingers of one hand. Orange honey is our main support; but it is such an unsatisfactory support that one who leaves a clover or other location to engage in beekeeping in the orange belt of middle Florida is building his house upon the sand in more senses than one.

We have no wintering problems, it is true; but we have something much more serious—the problem of keeping our bees alive and in good condition during the summer, when wastage of bee life is enormous. You in the North reckon 17½ to 20 pounds for winter stores. We must have 35 to 40 pounds. This last winter I left 45 to 60 pounds of stores for each colony and it has been little enough.

Let us take a normal season and see how we may expect to fare. Early in January a little nectar will be gathered from the maple, and pollen from the short-leaf pine. In some colonies a small patch of brood will be started. Then there will be two or three weeks of inactivity until the jasmine, mock orange, and huckleberry open in February. By Feb. 20 a little orange honey should be coming in; and by the first of April we will suppose that we have a crop of, say, 75 pounds of orange honey in the supers. Let me reiterate my warning here to go slow. You must not look upon this 75 pounds as surplus, altho you may give it as such in your government report and in communications to friends and bee-journals. You must look well ahead, for now is the time when you may lose your bees by starvation. Every colony will be boiling over with bees; there will be at least eight frames of brood, and we must feed these superlatively strong colonies until about May 15, when saw palmetto and gallberry begin to bloom.

How much of this 75 pounds of surplus shall we leave? If the brood-chamber is well supplied—containing, say, 20 pounds, I leave 30 pounds in the first super, and all scattered honey above that, and consider myself safe until palmetto bloom. Saw palmetto and gallberry should bloom from May 15 till early in June, and usually furnish enough to supply all needs until July 1. I say usually, because here again crops up one of our problems—forest fires. When palmetto is burned over in January or early in February little harm is done, for it will still bloom profusely; but when burned in March and April, as has happened for several years in this locality, there will be no bloom that season. During 1915 practically every patch of palmetto within range of my bees was burned during a dry spell in May, and, as a consequence, I had to feed 2300 pounds in addition to the 30 pounds per colony left in April.

If we can keep our bees alive until July 1, we are safe; for then the partridge pea will be yielding, and, altho we obtain surplus from that source only once in three years, it, together with cabbage palmetto and "purple top," will keep things going until September. Last year was exceptionally good for partridge pea, and I secured a fair surplus from it, my bees going three

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miles to it, over an entirely barren country. Partridge-pea honey is not "always dark red, of strong taste, and altogether undesirable as a table honey," as stated by Prof. Baldwin in Gleanings for October. He evidently gets his honey mixed. I do not know what the dark-red honey comes from, tho I get some of it; but I do know that partridge-pea honey is a very light amber from the high-bush variety, and a little darker from the low bush. It is also of good flavor when thoroly ripened.

During September there will be little done, tho the bees should find enough to keep themselves. In October we always have a fall flow from many varieties of flowers, the names of which I cannot ascertain. The "whiteweed" is, perhaps, the most valuable, for, if conditions are favorable, it will yield not only an abundance of winter stores but a surplus of white honey as well. The prospects of a crop from this source were never better than in 1916, and by October 12 the yard sounded as it does at the height of an orange flow; then came three cold days followed by a week of rain, and the bloom was over. We got enough for winter and no more.

Apopka, Fla. HARRY HEWITT.

Annual School for Beekeepers, Dalton, Massachusetts

The opening day of the beekeepers' school last summer was a stormy one; but as the program for that day consisted of indoor work, the storm was almost forgotten. It was apparent to all that Dr. Gates was an expert. Altho the first day was devoted to beginners, there were many old beekeepers present who also learned a number of profitable kinks.

The first thing taken up was the subject of hive construction and inside furniture. This brought out a great deal of discussion, and numerous ways of cutting foundation were shown. C. M. Musgrove, of Pittsfield, Mass., brought a miter-box into play and showed his method of cutting a good many layers of foundation at one stroke of the saw. His saw was an old one with the teeth filed in such a way that it left a good smooth cut.

Dr. Gates has a good and rapid method of wiring frames. A spool of wire is placed on a block in an upright position, the wire being drawn against a nail to take out all the curves and prevent it from kinking and snarling; in fact, it can be laid down on the table like a piece of string. A vise is fastened to a long table, while the block holding the wire is fastened by a clamp 49 inches away from the vise. A frame is placed upside down in the vise, and is so placed that it will be held at the center of the top-bar; the wire is started thru the second hole from the top, passed thru the opposite hole, up to the top one, then to the opposite hole toward the wire, where it is now fastened to the end-bar. The wire is cut off close to the spool, the spool being such a distance away that, when the wire is cut in this manner, it leaves enough to finish wiring the frame.

In placing the staples in the brood-frames, Dr. Gates uses a block similar to the one usually sent out by manufacturers; but the slot which guides the staples is cut in a line oblique to the one we commonly see and thus the end-bar is prevented from splitting.

The second day the beekeepers met at the home of Harry E. Hume, and "The Swarming of Bees" was the first topic on the program. Dr. Gates waved his magic swarm-box in the air, and, sure enough, a swarm appeared (even on that cloudy day); but it was down the road at the home of another beekeeper, where Mr. Gates soon gave us a fine demonstration on "how to handle a swarm."

The rest of the day was spent at Mr. Hume's apiary, where we were shown some fine comb honey and the method of producing it. The subject of "queen-rearing" was

Dr. Gates illustrating methods of putting up honey for market.

An apiary is the best place to teach bee culture.

FROM THE FIELD OF EXPERIENCE

taken up in the afternoon, and Mr. Hume had some fine queen-cells to exhibit, Dr. Gates giving a demonstration on how to produce them.

L. D. Case, of Pittsfield, took up the subject of requeening, and the merits of the different methods of introducing were discussed.

The apiary at Flintstone farm, Dalton, was the place visited the following day. The weather was ideal for apiary work. Ralph Ely and B. Ankar have charge of the bees and fruit, and both young men seem well adapted to the work.

From samples of honey purchased in Pittsfield Dr. Gates demonstrated how honey should be put up for market.

Messrs. Ely and Ankar gave a demonstration of extracting and bottling honey, and Mr. Ely also gave a short talk on the value of bees in the orchard, and showed us where clover had come into the fields near by—an occurrence which he attributes to the fact of having the bees on the place.

The writer had to leave Dalton the following day, much to his regret, so could not take in the program for Saturday; but we know that the demonstrations and discussions of races of bees, transferring, wintering, and bee diseases must have been fully as entertaining as those of the three preceding days.

Such outings as these are of inestimable value to all, and we should have more such chances to get together and exchange ideas.

Berlin, Conn. A. E. CRANDALL.

Workingman's Playground

Altho working six nights every week on a Rochester morning newspaper, I am able to utilize my spare hours of daylight in recreation, working among my bees, at the same time making considerable profit.

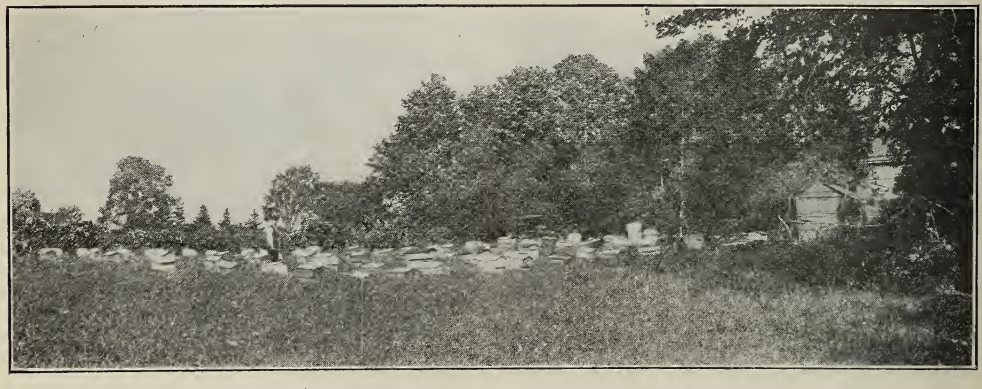
This apiary is situated just outside of the city of Rochester and is run for both comb and extracted honey. The main flow is from clover. The comb-honey supers are first put on, followed by full-depth extracting-bodies. Thus the main flow is secured in comb honey with very few unfinished sections, and usually there is a good percentage of extracted clover honey also, all of which is sold in the home markets.

Besides looking after this apiary, I act as apiarist for several of the large gardeners about Rochester, who need the bees for fertilizing the cucumber plants in the greenhouses. As the garden district (Iron de quoit, "The garden spot of the world," as it is known) is made up of vegetable crops and fruit, there is no pasturage for the bees after fruit-bloom, and, consequently, a good deal of feeding has to be done. This section is north of the city, along Lake Ontario.

My apiary is about twelve miles south, surrounded by grazing and general farming land. In connection with the apiary, queen-rearing is carried on for the benefit of myself and local beekeepers. There are many colonies kept in the city, and almost every year a strong swarm will cluster on the trolley wires in the business district, causing quite a sensation.

This seems to be a good deal of work for one man to handle; but as I follow up my comb-honey supers with extracting supers, and raise the hives up from the bottom-board, allowing a free circulation of air, swarming is held in check. With the aid of a light motor truck I am able, within 12 or 20 minutes, to reach my bees in either direction. While being kept rather busy, I consider it fun and recreation to work with the bees.

Rochester, N. Y. W. H. HARBER.



Apiary of W. H. Harber near Rochester, N. Y. Mr. Harber works six nights a week on a daily newspaper and cares for his bees during spare time thru the day.

FROM THE FIELD OF EXPERIENCE

The 400-colony apiary of E. J. Stahlman, Knox, N. Y. At this apiary Mr. Stahlman has a bee-cellar above the ground.

The Bee-house and Apiaries of E. J. and P. W. Stahlman

During my visit at W. D. Wright's, of Altamont, N. Y., he was kind enough to take me to the apiary of E. J. Stahlman. The apiary of 400 colonies is situated near Knox, on a splendid state road some distance from Altamont. When we reached there we found Mr. Stahlman and his brother building an above-ground bee-house with a sub-earth ventilator.

The floor of the house is of concrete, and of vitrified tile with a double air-space in them. These air-spaces are intended to prevent outside temperatures from influencing the temperature in the house — in other words, to insulate. In general I do not have a very good opinion of an above-ground bee-house, intended as a wintering-place for bees; for the often rapid variations of atmospheric conditions have such an influence upon the temperature of the room, while with cellars the temperature of the soil about the cellar walls changes but slowly. Still, what almost reconciled me to this cel-

The Stahlman queen-rearing yard of 50 nuclei.

FROM THE FIELD OF EXPERIENCE

lar, and placed it away ahead of any bee-house I had ever seen, was the ceiling to the place. He has something along this line that is valuable and unique. There are the usual joists to which to attach a ceiling; but instead of the usual inch lumber there is fine poultry netting, and, resting on top of this, forest leaves to a depth of 12 inches at the sides and about two feet toward the center. It will be readily seen that in this way the moisture from the bees will pass thru the leaves, a maximum of heat be retained, and yet the bees will have a moderate and gradual change of air without any pronounced current. There is a sub-earth ventilator which brings in fresh air. Such a ceiling could be applied in various places on the farm, such as poultry-houses and pig-pens, where in winter I have often noticed a damp and chilly air, which is quite injurious to animal life.

From Mr. Stahlman's we went to the home of his brother, P. W. Stahlman, who is also a thoro beekeeper, and one who can relate some interesting experiences on selling honey. He strongly advises that a man should know something about the one to whom he sells honey.

R. F. HOLTERMANN.

Brantford, Ont., Can.

Power Machinery for Home-made Supplies

During the summer of 1912 it was my privilege to be with a professional beekeeper in the central part of New York. One of the first questions asked after my arrival concerned supplies. Whether one using as many supplies as my employer, should buy them all from the regular manufacturers was, it seemed to me, an important question, and I was not surprised to learn that by far the greater part of the hives and fixtures were made at home. A gasoline-engine and power saw were utilized, and it was not long before we had a fine lot of frames, covers, and bottom-boards. While they were not as smooth as most goods from the factories, they served the purpose fully as well. During the season I observed that the engine was often used for other purposes. The saw also came in handy for many jobs not directly connected with the bee work.

The season of 1913 was spent at home on my father's farm. It was my desire to increase my small apiary, and I needed hives. There was plenty of lumber available—pine of good quality—so the problem was only to reduce my lumber to hives. After some consideration a 4-horse-power gasoline-engine was purchased, together with a mandrel and the necessary saws and belting. Before the bees began work I had 80 hive-bodies, 60 covers, and as many bottom-boards ready. The engine was used to cut wood and to do any other work within its province about the farm.

For my first hives I bought the frames from a supply house because I wanted Hoffman frames and was unable to make them. The following winter I decided to dispense with self-spacers, as I felt that the cost did not justify their use. So I cut out 2000 frames for the 200 new hive-bodies. At the retail prices asked by dealers my frames alone would have cost me $70. Aside from the material, which cost only the labor of getting out, my only expense was for gasoline and oil. The work was done during the winter when time was the least valuable.

I am fully aware that some of our best beekeepers do not advise making supplies, and it is quite evident that for some to do so would not be good policy. If one needs only a few hives or fixtures it would surely be poor economy to buy an expensive equipment for their construction. Or where material is scarce, and high in price, little could be gained. Unless the beekeeper needs many supplies it might be a poor plan to invest in machinery for which there is no other use; but on many farms an engine and saw would pay well, even if they were not badly needed for bee-supply work.

The cost of the proper equipment varies. For my engine I paid $90 and the freight. The saw-table I made at home. The mandrel, saws, and other irons were purchased at a cost of $16. With this machine I have been able to get quite satisfactory results; but I would not advise any one to make his own table if he can afford to buy an iron one, such as put out by some firms making a specialty of wood-workers' supplies. The iron tables are far more accurate; they vibrate less, and will give much better service in every way. Accuracy is the most important feature. It is of the utmost importance to have all fixtures interchangeable; and to do so with any ease, well-made machinery must be used. Factory-made tables cost from $50 up. Second-hand machines can sometimes be procured very reasonably.

Lumber values vary greatly with locality. Here material for hives of Langstroth depth costs from $30 to $50 per 1000 feet, depending on quality and condition. I was offered white pine, unplaned, 10 inches wide, for $30 per 1000. I had to haul it ten miles to a planing-mill and pay $2.00 per 1000 for having it planed. For frames one can utilize short pieces, scraps, etc., that might otherwise be of little or no value.

West Danley, N. Y. RAY C. WILCOX.

[To make sure of the dimensions, one who makes his own supplies should have a factory-made outfit for a sample.—Ed.]

SIFTINGS

J. E. Crane

DR. MILLER, p. 693, September, quotes from the British Bee Journal some statements in regard to the length of the life of the bee, and inquires, "Do we know positively anything about it?" Yes, sir, doctor, we do. But we don't know all we should like to. If we introduce an Italian queen to a colony of black bees in summer we shall find our black bees last just about six weeks from the time the last black bees hatched. But there is doubtless a great difference in the length of their lives, depending on the weather, the abundance of nectar in flowers, and the distance they have to fly, the wind, and perhaps other things.

* * *

E. G. Baldwin informs us, p. 786, October, that at last they have American foul brood on the east coast of Florida, and considers F. Dundas Todd's article in the American Bee Journal as both "timely and refreshing." I consider his method of combating this particular disease quite out of date in this part of the world. I am not denying that his scheme of cremation is a sure remedy for every colony treated. So is burning a barn to rid it of rats a sure cure. But why all this waste? The editor of the American Bee Journal advocates saving the hives, we are told; but why not save the combs and render them into wax?

Mr. Todd claims to be able to cremate ten hives in an evening. These combs, if worked up into wax, would be worth ten or twelve dollars at the present price of wax. If there is honey in the hives it can be saved. Combs that have been melted and boiled for making wax can no more spread contagion or disease than the ashes in the pit in which the hives and combs have been burned. Of course, if there is only a single hive it might not pay; or if there is no place where the wax-rendering can be done it might not be wise to attempt it.

* * *

On page 855 the editor seems to think that an opening in the upper and also in the lower part of a hive does not give as good ventilation as only one opening. I believe, Mr. Editor, your reasoning is not correct. I believe that the ventilation of a hive is quite different from the action of a pump. If bees at the entrance are fanning so as to draw air out of the hive it matters little whether any is forced in at the entrance or not if there is an opening above where it can enter. It is not necessary that a tube thru which water is forced should be bent so that the inlet may be near the outlet. It may be located at the opposite end of the reservoir. Our own experience is the same as Dr. Miller's, that bees keep cool quite as well or better when given upward ventilation or an opening above the bees.

The papaya-tree illustrated on page 866, November, is a most interesting plant. It is sometimes called a melon-tree, which makes it more easily understood by those who have not seen it. It grows upright, a single stem usually, the leaves looking like gigantic watermelon leaves, while the fruits look something like a small greenish-yellow squash. When cut in halves the flesh resembles a muskmelon, containing a hollow cavity filled with a soft pulpy juice and dark seeds, somewhat like watermelon seeds, only smaller. These trees grow wild along the coasts of southern Florida, but the fruits are inferior to those cultivated in the West Indies. [See page 43. —Ed.]

* * *

Dr. Miller, you state that I said, page 771, I "don't worry if my bees have sugar and pollen." No, doctor, those were not my words. What I did say was that "we get along very well by supplying any lack of winter stores with sugar syrup." Usually our hives will have fifteen to twenty pounds of honey by the middle of September. As they need thirty pounds or more to winter we feed sugar syrup, which is mostly consumed during the winter. So you see we have no need of worrying, as they get along nicely with warm weather and plenty of pollen, even if they have to use some sugar with their honey in the spring.

* * *

I was in Connecticut in September, and found some of the best beekeepers of the state were enthusiastic in their praise of the section hive containing shallow frames above and below. My son was recently in the northern part of this state, and the best beekeeper of that section was likewise greatly pleased with the sectional hive. With such hives I am sure shallow extracting-frames would no longer be a nuisance, first class or likewise; but really I don't like two kinds of frames or sections in the same yard.

* * *

Those were unusually open-minded officials in the city of Huntington, Ind., who were willing to let sweet clover grow in the vacant city lots (page 752). I know of a city where a beekeeper went to the officials, asking that the sweet clover might be cut in order to improve the looks of the streets, not discovering his mistake until the flow of honey was cut off.

* * *

H. H. Root is quite right, page 779, October, in recommending friction-top pails for feeders. We have used them for several years and find them very satisfactory.

STRAY STRAWS

Dr. C. C. Miller

J. E. CRANE, defending deep extracting-frames, p. 944, says: "How nice to be able to take from our supers two or three full-depth frames solid with honey and drop them into a hive that happens to lack stores!" I'm not going to mix in the fight, but I can fancy some of those shallow-frame fellows saying: "We can easily have a few deep frames filled for the purpose of feeding, but we would hardly want on that account to submit to the nuisance of having all our extracting-frames deep!"

"In no case should glucose be used. In the first place it is difficult to get bees to take it, and in the second place it will kill them before spring." That's said in December Gleanings, p. 911. Don't you want to back down from that, Mr. Editor? Here's what I find in Woman's Home Companion for December, p. 34. "Every pound of maple sugar, molasses, honey, or glucose that the American people can use instead of white sugar will release just that much food for the English and French children." In some other magazines glucose is put before honey, but is generally called "corn syrup." In December Good Housekeeping, p. 76, "brown sugar or glucose" is given as a proper substitute in recipes calling for granulated sugar, no mention being made of other substitutes. Now if glucose is all right to enter the delicate stomachs of little children as a substitute for white sugar, isn't there some mistake about its being such a bad thing for bees? [If you have ever tried feeding glucose to bees you would know it is very difficult to make them touch it. Now in regard to whether it does kill bees when they do take it, you are probably aware that grape sugar and glucose are much the same. When we say "grape sugar" we mean the commercial article which was sold extensively years ago. A. I. Root, in the early 80's, used it considerably as an experiment and succeeded in killing some of his best colonies that used it for winter stores. For stimulative brood-rearing it answered very well, but that was when the bees flew every day. We do not know anything about the effect of glucose on the stomach of a little child; but some years ago we ate it freely as an experiment and used it in place of sugar everywhere. In about three weeks we had such a bad case of indigestion that we began to think we were not going to get over it. By "glucose" we mean the commercial article and not the mixtures sold under various fanciful names. Bees might store these in combs—we do not know. In any event, we should be afraid to use them during the winter on account of the known effect of grape sugar, which we have stated is much the same as glucose.—Ed.]

J. L. Byer has two counts against me, p. 927, December. First, that I use too small hives. I plead guilty. I changed from 10 frames to 8 frames years ago, because at that time it was the fashion; but I've said more than once that if beginning again I'd use larger hives. The second count is that Dr. Miller "is opposed to feeding the bees in the fall, preferring to give them combs of honey as needed, to make up any deficiency." I hardly know how to answer that, and I'd give something, J. L., to sit down and talk it over with you. Decidedly I'm not opposed to feeding in the fall, for each fall I feed any colonies that need it; but I feed honey, not sugar, and yet after all colonies are well supplied in the fall there will, with eight-frame hives, always be a chance to feed more in the spring, so I like to save over winter about two frames of sealed honey for each colony the next spring. You think it is not so well to replace partly filled combs with full ones as to feed, and by that I suppose you mean to feed with sugar. That's a new idea to me, and there may be something in it. Yet I've never been aware of any evil effects from putting in full combs. If, however, it should prove true that it is better to feed sugar syrup than to give full combs of honey, I should think it better still to feed liquid honey rather than sugar syrup.

Take combs out of the extracting-super and put them in the brood-chamber to have the pollen cleaned out, says J. E. Crane, p. 944. Five pages further along C. F. Alexander says, take them out of the brood-chamber and have the pollen cleaned out in the extracting-super! Possibly both are right. Locality? That or something else. Certainly in this locality I haven't had trouble with accumulation of pollen in extracting-combs. Of course my experience with such combs has not been so very great. But when I have put a comb with pollen in an extracting-super, the bees have cleaned out the pollen, slick and clean. But I didn't put "the queen and plenty of brood" in the super, as does Mr. Alexander. I should expect that to work the wrong way. I have my doubts about his explanation that the bees don't carry up pollen because they "have difficulty in carrying pollen thru the excluder." It is simply the common thing for the fielders to deposit their loads, whether pollen or honey, in the first story they enter.

Edw. A. Winkler, p. 936, says, "As the top wire is so near the top-bar I do not consider it at all necessary." May be not; and yet near the top-bar is the very place where the foundation stretches the most. Some beekeepers have wondered why brood

was not reared near the top-bar, without realizing that, altho the stretching there had escaped their observation, there was enough to keep the bees from using it for brood. [At the Des Moines convention, as mentioned elsewhere, there was some discussion along the line of stiffening up foundation by painting it with hot beeswax. This finally turned to the point of whether it would be cheaper to use more wires near the top and fewer wires near the bottom than are ordinarily employed in horizontally wired frames. Mr. C. P. Dadant readily agreed with us that putting more wires at the top would be a good thing. In our opinion it would be a mistake to remove the wire near the top-bar as suggested by Mr. Winkler.—Ed.]

In view of the fact that it is so common for the popular magazines to boost glucose and slight honey as a substitute for white sugar, The Ladies' Home Journal for December is a conspicuous example of the right sort. With, I think, a single exception, corn syrup (glucose) is not given in any recipe, while honey is given in fourteen recipes on p. 53, as also in three on p. 78, on which page it is said: "Honey, molasses, sugar, maple and brown sugar—particularly the first two—are the basis of many little-known sweetmeats that will delight the children at Christmastime." On p. 64 this statement is made resulting from an interview with Mr. Hoover and his assistant, Dr. Wilbur, and Assistant Secretary of Agriculture, Dr. Taylor:

"Two important facts regarding sweets have been the result.

"First.—Human beings need sweets — must have them; while those who are omitting wines and liquors from their daily menus will find additional sweets almost a necessity.

"Second.—We can eat all the candies we want with a clear conscience if we eat those made from things other than cane or beet sugar; candies made from honey, molasses, maple sugar, fruits, nuts, raisins, chocolate are available and make delicious sweets."

Speaking of "sending comb honey by mail," p. 830, Allen Latham is the only one I know who can do the trick every time. I think the secret is in having a big lot of excelsior tightly wrapped. He once sent me a section that came in perfect condition, the bundle being eight or ten inches in diameter. I sent back a section in the same bundle, and it was smashed. He said I didn't tie it tightly enough. One man who sent me a section said he wasn't going to take any chances, and so he sent it in a box of heavy boards. It came "on the run." No thickness of lumber will break the jar as will the elastic excelsior.

Young-fellow-beginner-to-keep-bees, I commend you to sentence on page 831: "We always carry some extra combs containing sealed stores to give the colonies in the spring if they need it." And they almost always will need it, especially if you have eight-frame hives. Even if a colony can exist to the honey-flow with no danger of starving, if you give it a comb of fall honey saved over, you have just swapped that comb for an extracting-comb of light honey; for if you had not given that fall honey, the bees would have had to fill that amount of white honey into the brood-chamber before storing in the super.

"The trend of the discussion seemed to be in favor of a 4 x 5 plain section" among Western New York beekeepers, p. 951. I wonder whether that's local or whether there's any such general trend. You might tell us how The A. I. Root Co.'s sales of 4 x 5 plain compare with sales of 4¼ x 1⅞. I should expect at least two of the latter to one of the former. At any rate, if 4 x 5 should be made standard, do you believe you could whip those Colorado fellows into line? [About 20 per cent are 4 x 5.—Ed.]

"Prof. Coleman advocated selecting our best bees and breeding our own strain," says P. C. Chadwick, p. 924, December. Mr. Chadwick doesn't concur, but thinks ten dollars is well spent in getting an extra good queen from some one who has bred up a good strain, without waiting to build it up himself. Decidedly right; but after the queen is bought, then the Coleman plan comes in all right.

M.-A. O., p. 976, seems to have the amiable desire to bring down trouble upon my youthful head. No need, M.-A.-O. I've trouble enough now, chasing around after you among the ad's in the back of Gleanings to find out what worse thing you'll call me than a "disputatious sonofagun," and I want you to understand that I have my opinion of any one indulging in such language.

Because of the war "it is apparent that honey will form a larger part of our dietary than ever before," p. 750. That gives me another chance to speak my little piece, and say that it will be a great thing for the health of the nation if even a part of the sugar now used can be replaced by honey.

J. E. Wing advises (p. 920, Dec.) not to have package bees arrive until bees start to whiten the combs along the top-bars. Supers should be given at that time, or earlier, and in this region no such whitening occurs until colonies are strong. I don't know, but raise the question whether it might not be better to be about two weeks earlier.

G. M. Doolittle says when a queen of the right kind is found "she should be kept as a breeder, even should she live to be five years old."—American Bee Journal, April, p. 122.

OUR FOOD PAGE

Stancy Puerden

"THRUOUT the whole year, why not keep sweet? No frown ever made a heart glad; no complaint ever made a dark day bright; no bitter word ever lightened a burden or made a rough road smooth; no grumbling ever introduced sunshine into a home. What the world needs is the resolute step, the look of cheer, the smiling countenance, and the kindly word. Keep sweet!"—Geo. L. Perin.

* * *

Do you remember on one of these pages I made the statement that I feared Uncle Sam was making a mistake in asking us to use honey to release sugar for the soldiers and our allies? In my opinion honey is so much better food than sugar that the soldiers should have it to enable them to fight with more energy. Evidently some one agrees with me, for I happen to know that a large honey-bottling concern has recently filled an order for one hundred gross of individual bottles of honey for the soldiers; 14,400 dainty little bottles of nature's only concentrated sweet are on their way to cheer that many soldiers.

* * *

At this point I wish to take a little space to correct a slanderous statement made by editor E. R. Root on page 940. Dr. Miller called attention to a clipping stating that Herbert Hoover uses honey in his tea. Far be it from my intention to criticise a great man for sweetening his drinks with honey or anything else. His digestion is his own. But it did make it hard for me to obey the injunction expressed in the quotation at the head of this page when I read E. R. Root's sweeping statement, in reply, that "the editor is doing the same in his family, and so also is all of Rootville." Speak for your own family, Mr. Editor. To be accurate, there are eight families in Rootville, and four of those families do not use sweet of any description in coffee or tea. Furthermore, the grownups of those four families drink coffee regularly at least once a day; and if a member of one of the aforesaid families wanders into the Puerden home Sunday evening and finds the head of the family and his wife partaking of a tete-a-tete lunch accompanied by coffee he is not afraid to accept a cup of Stancy-made coffee. Then he goes home and sleeps the untroubled sleep of the just. But you just try offering a harmless cup of coffee to a member of the families who drink their coffee sweetened. This is a sample of the reply you will call forth, accompanied by a virtuous, dyspeptic look. "No, thank you. The coffee smells good; but if I should drink it as late as this I shouldn't get a bit of sleep all night. Indeed, I have had to cut out coffee mornings of late and substitute cereal coffee." Draw your own conclusions. However, if you must have your coffee and tea sweetened, honey is probably more wholesome than sugar. It may be well to state that those families in Rootville who drink unsweetened coffee eat more honey in the course of a year than the coffee sweeteners; but they give it its own proper and important place in the menu.

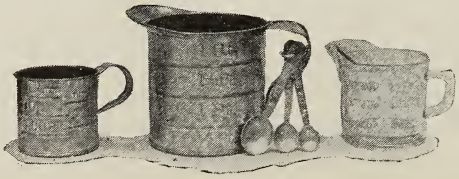
* * *

No doubt you have all heard and read many silly and untrue stories against the work of the Food Administration. The country has been flooded with them, as well as stories against the Red Cross and Y. M. C. A. Let me quote a little from a letter sent out by the Food Administration to Household editors. "The food situation is today tragically serious, and hunger may imperil a conclusive victory for the Allied Armies if the people of America do not exert their utmost effort. . . . Untruths have been fostered which have done more harm than battalions of German soldiers, because they have prevented this country bringing all its resources to bear against the enemy. . . . . The American whose heart is with the flag will back the efforts of the Government, not only by deeds but by every word he utters."

Perhaps it will help all of us housekeepers to think of ourselves as soldiers enlisted in the Food Administration. We know soldiers in training have to do many hard and disagreeable things, and that they frequently have to sacrifice comfort and inclination. For instance, a young man who left an office position, at a good salary, is doing his bit shoveling coal on one of our great battleships. Another young man in the navy writes he has learned to eat hardtack. The next time you hear some one grumbling at good corn bread on a wheatless day, try offering him hard tack.

* * *

I wonder how many of the Gleanings housekeepers are in the habit of carefully measuring all ingredients called for in recipes. Have you a set of measuring-cups and spoons similar to those illustrated? The two smaller cups are exact half pints, divided into fourths on one side and thirds on the other. The large cup is a quart measure, divided into fourths. The set of measuring-spoons measures accu-



rately one spoonful, one-half spoonful, and one-fourth. You may wonder why I am showing both the glass and tin measuring-cups, for it is true that a woman who uses her head for planning can get along nicely with one measuring-cup. It is for this reason: Some of my recipes call for boiling water; and after neatly and suddenly removing the bottom from several glass measuring-cups in succession by pouring boiling water into them I added a tin measuring-cup to my kitchen equipment. A tin cup alone would do, but a glass cup is much more convenient on account of its transparency. You may also get a set measuring a whole, half, and quarter teaspoonful; but as a teaspoonful is one-third tablespoonful it is unnecessary.

Remember, too, that unless stated to the contrary all measurements should be level. When a recipe calls for a heaping teaspoonful of baking powder it is most indefinite. Three level teaspoonfuls may be heaped on one overworked teaspoon. The rule now generally used is two level teaspoonfuls of baking powder to a level cupful of flour, if no other leavening agent is used. The old way of stating it was one rounding teaspoonful; but it was discovered that the same result could be attained with greater accuracy by measuring out two level teaspoonfuls. Yes, I will cheerfully admit that there are far better cooks than I who never measure ingredients; at least, that is what they would tell you. In reality they have trained themselves to measure with their eyes. Perhaps such cooks are born, not made. Believe me, the accurate-measurement way is quicker, easier, more economical, and the only way to teach the young cook.

* * *

So many housekeepers say to me, "I have no trouble with the meatless Tuesday, as we have not been eating so much meat on account of the high prices, but the wheatless day bothers me." For that reason I am suggesting menus for a wheatless day again.

WHEATLESS WEDNESDAY

(Also Sugarless).

BREAKFAST	DINNER
Honey baked apples	Home-made sausage*
Oatmeal with top milk	Mashed potato puffs
Rye bread toast	Beet greens
Honey	(home canned)
Coffee (Milk for children)	Pickles Jelly
	Boiled Rice
	Honey sauce
	(Dec. issue)

SUPPER OR LUNCHEON

Corn pudding (canned or dried corn)
Baked potatoes
Corn and rye muffins
Patriotic fruit cake*
Home-canned strawberries

Notice that the dinner calls for home-made sausage. I am going to admit right now that the Puerden family has kept pigs for years. We are proud of it now that we are told that every pig raised in this country amounts to a shell to defeat the kaiser; but it should be stated that we live on the edge of town, and our pigs reside still further out. To get to the point, since I have made sausage I have discovered that people seem to be inordinately fond of home-made sausage. There is no reason why every housekeeper should not have home-made sausage. Just get a few pounds of pork, say from the shoulder; grind it, season it, put it once more thru the food-chopper and pack it away in pails or crocks. If you make enough to last some time, set the pails in the oven, bake until the fat rises to the top, and then set away in a cold place. When the fat has hardened, cover the pails. It will keep for months. If your sausage is lean it may be necessary to pour in a little additional melted fat. It should entirely cover the meat, making an airtight seal. When you are ready to use it, warm the pail until the fat on top has melted; turn the sausage out on a platter, slice off what you require, put the remainder back in the pail, cover again with melted fat, and put it out in the cold again. You may use any proportion of fat and lean you wish. It is a matter of taste.

Any easy way to get the seasoning evenly distributed is to season enough for one meal at a time. For 1½ pounds of ground pork I allow 2½ teaspoons salt, 2 teaspoons finely crumbled leaf sage, and ⅛ teaspoon pepper. Many would prefer it more highly seasoned. A little experimenting will enable you to get it just right to suit your family; but remember it is much easier to add a little seasoning when you cook it than to remedy the matter if you get too much. The second grinding is not necessary, but we think it a great improvement.

The Patriotic Fruit Cake gets its name because it calls for no sugar, wheat flour, nor shortening—three foods much needed for export. It should delight a housekeeper, because it does not require baking, and, consequently, there is no possibility of its falling. Do you suppose there ever was a housekeeper who has not had at least one cry over a fallen cake? While this cake is somewhat expensive, it can be cut in very small pieces and served with fruit or a simple gelatine dessert.

PATRIOTIC FRUIT CAKE

1 package dates	1 tablespoon citron
1 cup figs	2 tablespoons honey
1 cup raisins	1 tablespoon orange juice
2½ cups corn flakes	¼ teaspoon salt
1 cup nuts	1 or 2 tablespoons lemon juice

Stone the dates and put dates, figs, raisins, and corn flakes thru the food-chopper, alternating them to get an even mixture. Add the nuts cut fine, but not ground, the citron shaved in fine strips, the honey and the salt. Use enough fruit juice, preferably lemon and orange, to moisten slightly, about two or three tablespoons; pack it in an oiled cake-pan and set aside for twenty-four hours before cutting. Other dried fruits may be substituted, and shredded cocoanut may be used instead of citron. It will keep well indefinitely.

Beekeeping as a Side Line

Grace Allen

OVER and over again we hear the same story, the up-to-date beekeeper leaving the slovenly one behind, the bees in modern hives outstripping their cousins in boxes. W. R. Graham, of Bergholz, Ohio, says that it looks as tho his ten hives of bees give as much honey as all the rest in town, and there are about a hundred all told; but, you see, the others are in box hives and left to "dig in for themselves."

Last summer three of his hives gave him $40 worth of honey. Full sheets of foundation, over queen-excluders, on Jumbo brood-chambers, gave a wealth of chunk honey, which sells at 20 cts. a pound. (Next year it may sell for more.)

Hunting bee-trees is easy when the bees aren't in a tree.

Fifteen bee-trees did Mr. Graham cut last summer. Once he hunted for three days before finding the elusive bees hidden in a deep hollow, with combs 14 inches long and a foot deep built on a hazelnut bush. Cutting them out, as you see in the picture, he took them home, stood the combs in a box, set the box in a home-made hive, rigged a super over the top, and they stored sixty pounds of honey in sections.

It isn't a good location, Mr. Graham says—drouth every summer—yet the bees "pay all expenses and then some. And"—and here is the secret—"it is a pleasure for me to take care of my pets."

Prof. Baldwin refers, page 784, October, to the National Geographic. If any one thinks it might be dull work studying flowers, let him read some of those charming sketches of wild flowers in recent numbers of that magazine. They are far more interesting than fiction. I should like to quote bits from some of the delicious descriptions. I just noticed that of the New England aster, for instance (Aster Novae-angliae), June, 1916; but I fear the editor would rule me out of meeting, for I should not know where to stop. A Nashville florist advertises "The beauty about our business is—flowers." Well, one of the beauties about our business is flowers too.

Another is books. What dear old books "Mary" writes of in her last interesting letter! "You would love these musty leather-covered volumes," she says, "with their sere brown pages." I love them already, just from the letter, especially "The Feminin Monarchi." "In a word, thou must be chaste, cleanly, sweet, sober, quiet and familiar so they will love thee and know thee from all others," "Mary" quotes, and leaves us all indebted to her for the quotation. The quaintness of it, and the simplicity and the flavor! He was more than a beekeeper, that Samuel Butler of the seventeenth century, whose leather-bound book "Rob" has purchased for an unconfessed price. He was a philosopher and a gentleman, and he came dangerously near to being a poet as well.

* * *

Mr. Frank Pellett writes in the October American Bee Journal of a method of making increase for which he claims substantial advantages. Are we going to dismiss it with a shrug? "Prime swarms are good enough for me," some one says. "And division for me," says another. But in reality nothing is good enough for you except the very best you can learn to do. It may be prime swarms or it may be Mr. Pellett's method or it may be something quite different from either. The thing that matters is your open-mindedness and eagerness, your spirit of unceasing progress—"onward and upward forever."

* * *

Said a man to me last week,
"Those Roots are surely bright;
They cross their bees with lightning bugs
And work 'em day and night!"

Beauty In a Bulletin.

Oh I have read a thing of wonder!
Not all the type and all the words could sunder
The beauty from the fact;
Nor all the scientific phrases, so exact
And prosy, hide the glowing thing
They told and I would sing.

(For did you think
The beauty of a story lay within the ink?
It may—where words become an art.
But deep in *every* page there is a heart,
And in the heart the beauty lies.
For tho the words you read,
Discuss in dry unsmiling ways,
Dry wherefores and dull whys,
Let but your stalwart vision lead
A swift trail thru the maze
Of logic and instruction—and behold—
Some young, sweet, old,
Undying beauty at the heart of things,
Where beauty always sings!)

This tale of wonder that I read today
Within a printed pamphlet lay,
Called "Wintering of Bees."
Practical the problems treated,
With scientific, up-to-date experiments repeated—
Prosy pages, these!
For see—
Among the words that spoke to me
Were—*insulation,*
Ventilation,
Heat production, stimuli,
Observation,
Variation,
Thermal junctions—where and why;
Schematic curves, and amplitude,
Minima and maxima,
Bee behavior, time of brood,
Theory, phenomena.

But had you thought
Such heavy words mere lifeless things?
Not if you sought
The truth that science tells;
For in the haunt where proud truth dwells
There beauty also dwells and sings.
So as I read, my bulletin became
A sudden light, and in the flame
Was beauty! And I saw
The wonder and the miracle of law.

The tragic hours
Stood at salute an instant while I went
In sudden fancy, with intent
And visioning powers,
Back, down the ages.
There primeval bees
Within dark winter's hollow trees
Clustered, as these my so-called prosy pages
Tell me today.
And so, in far-off future times,
In this same way
Shall bees be clustering still,
While I, with all my dreaming rhymes,
Lie sleeping on a hill.
(O you who love me, let it be a hill!)

The waiting hours unbend
To go about their grim relentless work;
They cannot shirk
Their going-on to some great end,
For all my visioning and dream.
But now across their murky red I seem,
Where khaki-colored waves advance.
To see quaint skeps in broken lines
Beneath the brittle, war-torn vines
Of Flanders and of France;
And in each skep my fancy sees
The closely clustered bees.

Where England's ancient groves of oak
Spread mighty arms;
On little wistful German farms
(Ah! once that name we spoke
With thoughts of learning and great song,
But now—O God, how long?);
Where goatherds dwell in Alpine passes;
Across unending plains of Russian grasses;
On wide Canadian fields that sweep
Down from the north and help to keep
With us the border line of old;
Wherever winter's grisley, cold,
Unwelcome hand
Has gripped a land—
Ours, or these other lands afar—
There in their hives or hollow trees
Cluster the bees—
How old and wise they are!
(And yet themselves, not old at all
Beyond their few short weeks of sun and flower—
Nor wise perhaps; but what then shall I call
Their heritage of power?)

High within the gloom
Of their hushed and fragrant room,
Rise mystically molded waxen towers,
Within whose rows of vaulted treasure cells
Are hid the mingled essences and haunting smells
Of perished flowers.

Here hang the bees, clustered the self-same way
They clustered ages past.
Uncounted tiny bodies move and sway,
Now slow, now fast;
Wings keep their strange incessant beat,
And from the center of the ball
To the last concentric wall
Issues the living heat.
The places change: some enter, some pass out;
The vibrant sphere forever moves about
Within itself; and if some winter day
Grows mild and warm, it breaks away,
And some one in his native speech that night
Remarks, "The bees were flying round today a while—
They dragged the dead ones out—there's quite a pile—
I guess they all were glad to have a flight."

Then back they come together,
Again to cluster, week on week of frozen weather.
Sometimes they faintly hum—
I wonder if they know that some day spring must surely come.

. . . . . .

O bulletin of grave instructive prose,
Today I have dived under
Your words and very facts, and found the heart you hide,
A heart where deathless beauty grows
And there is dream and wonder,
And on the mystery of life a far gate opens wide.

GLEANINGS FROM THE NORTH, SOUTH, EAST, AND WEST

THE DIXIE BEE

Grace Allen, Nashville, Tenn.

NOT only is the walnut being cut out from our Tennessee woods to make gunstocks, but the locust also is being taken out rapidly. Walking across country one peaceful autumn Sunday afternoon we saw several trucks of locust logs being hauled, even on that day, so urgent is the need. This locust, we are told, is taken to our ship-building yards to be used as ship "pins." Many a beekeeper will notice the loss of this heavy nectar-yielder, while all lovers of beautiful bloom and fragrant breezes will miss these trees that have made countless generations of human hearts glad in the lovely days of late April.

* * *

Dr. Miller, those men whom I referred to as trying movable frames instead of box hives, happen not to be in Tennessee. But of course I must admit that Tennessee has box hives, many of them; and among box hive beekeepers (?) there is no swarm control. When I doubted about indiscriminate swarming being the general practice in Tennessee I was quoting from a bulletin, so I suppose I was thinking chiefly of the bulletin-reading beekeepers. That problem wasn't fair; but for a fact the bulletin-reading, journal-taking, convention-attending, careful, conscientious beekeepers of Tennessee have sometimes been nettled by being scolded for things they didn't do.

Take the matter of winter packing. It might be put to them thus: "Here is a good chance to make your present success more successful." And they would quite likely give it consideration. But they have been told: "You lose half your bees every winter, so you'd better get busy and pack." Well, they know they don't lose half their bees every winter, so they don't get busy and pack. I am sorry more are not trying it this fall, at least on a small scale.

I protested just this way to our good friend Mr. Bartholomew a couple of weeks ago. He took issue with me on the ground that beekeepers were beekeepers, whether they were good or bad; and when people said beekeepers of Tennessee they meant beekeepers of Tennessee, all of them; and so they were justified in talking and writing about our 50 per cent average winter loss, and our indiscriminate swarming, which sounds reasonable enough.

* * *

C. E. Bartholomew, of the extension department, has been transferred from Tennessee to Colorado. Owing to his recent illness, a change of climate seemed advisable for the approaching winter—not that he is ill now, however. He took a splendid long walk with us one beautiful October Sunday, when the skies were bright blue and the trees like a flame. His close acquaintance with plants and insects made him a particularly interesting companion, as we left mile after mile of glowing countryside behind us. But recently recovered health is truly something to be guarded, so he plans to be particularly careful for a while. Fortunately the department was able to make the transfer, so Tennessee's loss becomes Colorado's gain. Our best wishes go with Mr. Bartholomew, and we hope he may come back to Tennessee.

* * *

In the summer of 1916 we had a touch of a trouble that answers most frequently to the name of "disappearing disease." But it was in one colony only, so far as observed—the one directly at the foot of the peach-tree. Last year it was in many colonies slightly, the worst one being another one under the peach-tree. For a while I felt, like Mr. Holtermann, p. 766, October, that the shade must be a strong contributing factor. An experience that Mr. Bartholomew reported added weight to this conclusion. Yet after all it became pretty badly scattered thruout our little yard, most of which is not particularly well shaded. Bare places in the grass all around were strewn with dead bees.

* * *

Mr. Byer certainly uses the correct term when he talks about "crawling" bees in autumn. I love flying bees, and don't seriously mind stinging bees, within reasonable limits; but I do solemnly object to crawling bees. They nearly always develop into stingers eventually, and somehow leave me a lot more resentful than when they just fly at me straight—biff!—that way. In fact, it is only in the fall that I ever think about the advantages of a really bee-proof working suit.

* * *

There were more moths darting and hovering around the beeyard last fall than I ever noticed before. Ordinarily we have faith in the vigorous defense of our Italians—justifiably so, as the only trouble we have ever had with moths has been in combs stacked in the supply room. I hope this disappearing disease may not have weakened their resistance.

* * *

And now the editor says that we of the South not only have a wintering problem, even as they do in the North, but have also a "springing" problem — "and by no means the least is the springing!" Well, the solution for the wintering is the solution for the springing, we understand—packed hives. But please, Mr. Editor, don't spring anything on us that packing can't cure!

IN TEXAS

F. B. Paddock, State Entomologist

THE Honey Report contained in the November issue of the Monthly Crop Report contains some very interesting figures on the Texas situation. The average yield per colony for 1917 is placed at 12 pounds; this amount is, indeed, very liberal considering this year's entire failure of production over such an extensive area of the principal honey sections. Of the honey produced, there was a very decided tendency toward the extracted, and there is every reason to believe that this tendency will increase in the future. Local trade everywhere is being induced to purchase extracted honey. The term "chunk" honey has been discarded on the local trade market, and "bulk comb" honey is now applied to this product. The amount of honey placed upon outside markets from this state was exceedingly small this year. And this amount should have been still less, for honey was shipped in to supply the local demand, in a few localities. The local demand for honey has been very good over the entire state, no doubt due largely to the sugar shortage, and somewhat to the desire of all to economize. This has resulted in very good prices being received for all good local offerings of honey in any form.

* * *

The Honey Market Reports which were issued by the Office of Markets, during the selling season, were not given proper consideration by all of the producers of this state. This may be due to two reasons: low production and excellent local demand. Regardless of these conditions the beekeepers of this state should certainly avail themselves of the information found in the reports, which is given for their benefit. Cases came to our attention where the producer was offering honey on the local market at a price below what was indicated in these market reports. We found on the part of many too much of a feeling of indifference —a disregard for outside prevailing conditions, and a tendency to offer their honey at prices that prevailed locally in former years. It is one thing to produce honey satisfactorily, but it is another thing to market it at profit. Marketing is fast becoming recognized as a science; and when every possible aid is given by experts it should be accorded consideration by the producers. It is to be hoped that the excellent service rendered by the Honey Market Reports will be given again this year.

* * *

With the great feeding problem on hand, there arises again the question, "Which is better to feed, sugar or honey?" Provided it is possible to obtain either in sufficient quantity, which makes the better winter feed? There are plenty of beekeepers who maintain that bees are killed by feeding a sugar syrup. Of course, we know that sugar is not the natural food of bees and on such food alone they cannot rear brood; but it is a fact that many a colony of bees will be carried safely thru the winter on a sugar feed. Another interesting question along this line is the commercial value of honey and sugar as a feed for bees. With sugar at 8½ cents per pound, what can one afford to pay for honey? There are those who contend that sugar at this price will go further than honey at fifteen cents a pound. This question will bear careful examination and experimental work.

* * *

This has been a year of trial for the careful and serious beekeeper. Conditions have not been so hard in many years; but in spite of the heavy losses suffered in many sections, the older beekeepers are optimistic concerning the future. This year the bees need more help than ever, and now is the time for every one to take the best care of his bees. There is too much of a tendency at such times to throw up the hands and allow "hard times" to finish its work. When the bees need feed it should be given. Sugar should be purchased if honey cannot be procured. There are many who have not examined their bees for some time; and when they do they will find only empty hives where colonies of bees used to be. This has already been the experience of some, and will be the experience of many others before next season. Give the bees a chance.

* * *

In spite of the unprecedented high prices of honey of any description there was more honey left with the colonies this year than ever before. On every hand, beekeepers took from the hives only a positive surplus of honey. There is also a growing tendency to have some surplus stored in brood-frames to facilitate feeding in the spring. This practice should be extended. Some spring feed is always needed by a few colonies; for even when the average conditions have been favorable, a colony here and there will need a little help to put it in good condition.

* * *

A few beekeepers who are willing to face the situation squarely have set aside a liberal sum for feeding each colony of bees. In one instance an estimate was made which was half of the value of a good colony of bees. With many colonies to feed, such an estimate would mean a considerable sum. It shows that there are those who have plenty of confidence in the future. Next spring bees will command a good price, and the careful beekeeper will certainly be rewarded.

* * *

Rains have been quite general over a considerable portion of the honey-producing area of the state. Such rains will prove to be a great benefit to the honey flora of these

sections. In some localities mesquite trees of considerable size have not been able to withstand the drouth of the past year. In many localities horsemint did not blossom this year, which may be very disastrous. Weeds are already coming up in some sections since the rain, and in one of the southwestern counties the bees were gathering pollen and some nectar from the "white brush" during the last week in November.

* * *

Another benefit to come from the Texas Honey Producers' Association, and no doubt the biggest to date, is the ability of the association to furnish beekeepers of the state with such sugar for feeding bees as may be needed. When the sugar shortage threatened the beekeepers here, steps were taken by the association in connection with the Food Administration whereby sugar to meet feeding needs immediately became available to the beekeepers of the state. This is only another example of the benefits of a mutual organization, such as our beekeepers have long needed. Still there are those who cannot see any benefit from co-operation.

IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.

THE rainfall for the season to date (December 6) has been very light; but the total absence of the usual north winds, and an exceptionally warm pleasant autumn, gives us stronger hopes for a heavy fall later, which, after all, is what counts the most.

* * *

Help for the beekeepers is going to be a problem next season, and is even now to some extent. When the draft list of present eligibles is completed it will have drawn many of our best helpers, whose places must be filled by men of less experience as well as less enthusiasm and vigor. There are avenues in farm labor that can be traveled very well by most persons; but when it comes to the bee business it requires both knowledge and experience to fill the place satisfactorily.

* * *

Comb-honey production is on the decline, if we are to believe the various reports we hear from time to time, and we have no reason to disbelieve them when a good comb-honey producer like Wesley Foster, of Colorado, gives us the sign of despair.

In my opinion it is the most economical transformation that ever visited the honey industry. There are few places in the United States where beekeeping has been a flat failure for comb-honey production, that would not have proved good locations if extracted honey had been the line of effort and education. One of the great needs of the day is to have some one round up these comb-honey producers and show the superior value of extracted-honey production. Year after year they buy hives and sections to put on their colonies, only to be disappointed in the returns. If they do get a super or two of comb honey they take it off and leave the bees with so little stores that they become destitute before the following season. The average farmer with ten colonies, now almost neglected from failures, could be shown that, with the aid of an extractor and plenty of combs, he could have as great an asset as the dairy cow or poultry. This education of the small honey-producer is a work that is given far too small consideration in this present-day need of an increased production of sweets. The difference between the amount of comb and extracted honey that may be secured is from 50 to 75 per cent—not that there is so much difference during a heavy flow where the bees are in experienced hands, but the average would amount to that much if the bees would only store the slow flow. There is a big missionary work to be done among the farmer beekeepers who do not read the bee journals and never see an extractor.

* * *

Mrs. Allen says, page 928, December, "Spring after spring finds combs in the hives so moldy that even the bees, skillful and thrifty tho they are, destroy them rather than try to repair them." I have plenty of moldy combs, even in this climate; but I never knew of a colony destroying them to save labor, or for any other cause. I have never seen the combs too moldy for a new swarm to tackle and clean up in short order.

* * *

The American Bee Journal for November shows a picture of a 27,000-pound honey-tank. I thought I had a large one at 10,000-pound capacity. It is only in case of emergency that I allow it to become full. I have known of two or three that have leaked badly because of the great pressure, and I always feel that it is putting too many eggs in one basket.

* * *

Combs, combs, combs! the greatest asset in honey production. Give the bees plenty to do at home and they will not be inclined to leave you. But do not give it all to them at once. Give them a chance to finish as they go, with an addition of empty comb room whenever they need it, so that every possible ounce of nectar may be procured.

NOTES FROM CANADA

J. L. Byer, Markham, Ont.

WHERE are we, anyway, on this subject of winter packing for bees? A good authority living as far north as Syracuse, N. Y., wants abundance of packing on top of the hives, and some protection as well on the back and sides, but nothing in the front. Still another authority of international repute—Mr. C. P. Dadant—endorses this method for Illinois; and the editor of this journal (page 909) at least gives countenance to the idea by giving it prominent editorial mention. And yet the bald, cold, scientific truth as demonstrated by authorities at Washington and other places says that such protection is an illusion. As a chain is just as strong as its weakest link, so packing around a hive is just as effective in proportion to the least protected part of the hive. While we are loath to disagree with scientific findings, yet there is no question that those who have tried out these things for a number of years in a large way will be inclined to agree with the ideas of Mr. Dadant and others. Personally we want packing on all sides of the hives, and an abundance on top. If forced to dispense with any of this packing, assuredly we would choose to do with less on the sides rather than to reduce the amount on top of the hive. Experiments carried on in our yards for a number of years have demonstrated that for our climate, at least, the primary factor toward good outside wintering is an abundance of good stores, assuming, of course, that the colony is normal in every other way. Winter packing reduces food consumption, and, incidentally, means better wintering as a rule. With deep frames, or with L. frames almost solid in the late fall, bees will usually survive the winter if provided with lots of packing on top of the hives, even if the sides and ends are unprotected. But with no packing over the tops of the hives, altho the sides are well protected, the heat continually escaping upward will prove a great strain on the colony, even if it does not succumb entirely. The Demuth plan looks good to me if one chances to be short of packing-cases, and I regret that the plan did not come out in time for us to try it out on a limited scale this winter. If trying the plan, we would transfer the seven combs as soon as the brood was hatched and then feed quite freely. A tall brood-nest like that, with bees clustering near the bottom of combs on end, with a great depth of honey above the bees, constitutes simply an ideal condition for good wintering, and heavy side packing would not be necessary.

* * *

On page 910 it is stated that "it is in line with the practice of our best beekeepers" to have the summer brood-nest contracted down to a space of two-thirds or three-fourths of the full hive capacity," when wintering outdoors. I wonder just what proportion of our best beekeepers are really practicing that plan. The late Wm. McEvoy was an enthusiastic upholder of this method of preparation for winter, and I suppose his sons are still following in his footsteps in that regard. The plan is eminently sound in theory and absolutely safe in practice, but, means a great lot of extra work. While I feel quite sure that it would pay, taking one year with another, yet we, with many others of like convictions, must plead guilty to wintering nearly all our bees in the full-sized brood-nests that they have in summer. Let us hear from some who contract for wintering. For the last few years I have been unable to find any extensive beekeeper putting the plan into general use.

Brown sugar for wintering bees (see page 911) is decidedly risky unless climate is taken into consideration. We tried the brown sugar only once in a very limited way, and the results were anything but satisfactory. The late Mr. McEvoy told me that one year it was hard to get granulated sugar, and he fed some 20 colonies with brown sugar, doing the work quite early in the fall, so that all stores would be sealed nicely before cool winter. But before spring all these colonies had dysentery, many perishing outright while all with the granulated sugar stores were in perfect condition.

Possibly the brown-sugar stores would do in climates where bees have frequent flights; but for cold localities where bees go for many weeks without flight, brown sugar would be a last resort and used only when nothing else was obtainable.

* * *

In a late issue of the American Bee Journal, in describing some of the things seen while visiting Mr. France, of Wisconsin, the staff correspondent mentions the fact that their honey is always sold in the liquid state. He further says that "the final consumer nearly always requires his honey in the liquid state." This must be a question of "locality" again, as here in Ontario, aside from the glass trade in extracted honey, no effort is made to retard granulation, for about all customers expect to find the honey in pails granulated. While directions are on pails for liquefying, we personally know that a great many consumers prefer the honey granulated, especially if it has a fine grain and texture.

* * *

A nice spell of warm weather in mid-November gave the bees a cleansing flight. At present, Dec. 5, we are having nice ordinary winter weather, and the bees are in seemingly good condition.

* * *

Our buckwheat honey was sold at 13 cents in barrels, and 13½ in tins—the sale being made about five weeks ago. Now the same grade of honey is selling at 2 cents advance over those prices. Where is the limit?

FLORIDA SUNSHINE

E. G. Baldwin, Deland, Fla.

ANOTHER inquiry has come to hand for a booklet on Florida beekeeping. While Florida is not as large as all the rest of the United States put together, by any means, still it is a big state; and while the state as a whole is not of even value, for honey production, still certain localities are excellent, and in good seasons have yielded the largest crops of any localities known in the world. We refer to the mangrove sections of the East Coast. The whole problem is one of the man and the locality combined. If a man knows how to make the most of his locality, or can shift his bees by boat from one place to another, it is almost six to one that he will succeed. But conditions are so radically different that but very little that is written for even the Cotton Belt will apply fully to Florida. The editors have given considerable thought to the question of a Florida booklet on apiculture, but the honest question is, "Will it pay the publisher?" It will pay the few who want and need such a manual, no doubt. Perhaps the time for it is not yet ripe; but it is probable that, after this war, such a book will be forthcoming. At present, almost all writers who make a general survey of beekeeping conditions in the United States do make a separate class for Florida.

* * *

Kenneth Hawkins, apicultural assistant, in general charge of the southern states, has just gone south (Nov. 10). His main aim is to study diseases and diseased conditions in Florida, and, secondarily, to meet bee men there and associate with them fraternally. He has several meetings in view. C. K. McQuarrie, State Agent, Dep't A and M., Gainesville, Fla., has indorsed the proposed trip of Mr. Hawkins, and is ready to extend a cordial hand of greeting. We feel that Mr. Hawkins will be welcome anywhere and everywhere. So far as our memory serves us, this is the first federal agent that has visited Florida since Mr. Demuth, now assistant to Dr. Phillips, visited the state six or more years ago. We do not yet know whether or not Dr. Phillips plans to include Florida in the extension work that he is planning for the coming year.

* * *

An inquiry has come to hand from a correspondent in Mayville, N. Y., asking for information on raising bees in Florida. His questions follow:

1. How many colonies would be required to produce 50 pounds of bees for shipping north?
2. At what price can bees be bought locally?
3. Are there many wild swarms in the woods?
4. Is it necessary to feed any during the winter?
5. What section of the state would you consider the most desirable for rearing bees?

1. It depends much on what condition you plan to leave the bees in, after shipping from them. Fifteen would leave the colonies weak, probably; twenty-five would allow the fifty pounds to be shipped with little diminution of the working strength. It could be done from ten colonies, but if shipped in time for clover in the North they would not be more than fragments of colonies after the fifty pounds had been shipped away. If taken thruout the season, even ten colonies could be left in good shape for winter.

2. At prices ranging from three to five dollars per colony, usually, if at all.

3. In some localities, near woods, many swarms are to be found. One man near Bradentown told me that he had "spotted" fifty swarms, and was awaiting leisure time to cut the trees.

4. No, not if ordinarily good care has been given. Like every other state, Florida offers no openings for slovenly methods.

5. Not north of a line drawn straight east from Tampa; the further south the better, generally speaking, for weather conditions. As for flora, a man must come down and see for himself first. No offhand directions can be given.

* * *

With prospects of a thrilling demand for all the honey the country can be made to produce another year, surely Florida beemen ought to "move up on the proposition" with all the force and brains in them; and one of the best means for making a big drive in the spring is to start in the winter with full colonies and full hives of honey. I have never yet found a colony with the hive too full of honey for good results; but, alas! too often have we found colonies that suffered from too little stores. The bees always seem to find room for the honey somehow.

* * *

"Mr. Pellett announces to us that Prof. Millen has now 75 girls taking the special course in beekeeping at Ames College (Iowa), American Bee Journal, p. 193. Dr. Phillips says there are now 22 colleges and universities offering courses in beekeeping. Every state produces honey, therefore every state should have a state apicultural department in its colleges or universities, one to every state. Not until then can it be truly said that we are abreast of the times apiculturally.

* * *

W. F. LaRoche, of Courtenay, Fla., writes: "Thanks to the cabbage palmetto, we have harvested a very satisfactory crop this season." Good for you, friend LaRoche! You stand almost in a class by yourself, this year in the state. Not many beemen can write "satisfactory" as their verdict of this year's honey crop.

AMONG THE ROCKIES

Wesley Foster, Boulder, Colorado

THE high price of honey has cut down the local consumption at least one-half. Calls are quite frequent; but three times out of four the price spoils the sale. Nearly all the honey being sold at retail by the grocers is going at less than it is worth in car lots. Our local consumers have been spoiled by the low prices at which some of our off-grade honey is sold, and also by the farmer-beekeeper trading his honey for groceries and taking any price offered for his product. Local advertising would help greatly, however, and it should be done by every beeman, for the local market is often a very present help in time of trouble.

* * *

In Colorado comb honey sold at the beginning of the season at $3.50 per case in car lots. It ended the season at $4.00 to $4.25. Extracted honey sold in car lots at 11 to 16 cents per pound in car lots, the latter price being secured for some of the best honey sold. There has been a steady advance in honey prices since early in the season; and with the continued calls for honey, prices should hold up another season provided the war continues; and even if the war ends, prices will not drop for some time. Beekeepers can safely plan to increase their production in extracted honey and comb honey also will doubtless command a high price.

* * *

Beekeepers in some parts of Colorado tackled winter protection with zeal. Various methods are being used, yet very few are going to the expense of constructing quadruple cases. Some are packing colonies singly, some are putting nine together. Straw seems to be the principal available packing material. Since few are securing all the conditions necessary under Dr. Phillips' recommendations, the results will be problematical. With the prices secured for honey it might seem that beekeepers should be able to purchase the best of equipment for winter protection, but it will take several prosperous seasons for some to get where they can afford the quadruple cases, and by that time a cheaper and better method may be available.

* * *

We need not worry about tin cans for the coming crop. We worried last season to no purpose. There were lots of cans at a constantly increasing price. Now that the government has fixed the price on tinplate we are assured of a stable price lower than the highest price of last season; but we may experience some difficulty in getting the cans when we want them, so it is good policy to order early. Five-gallon cans have dropped from about $46 to $37 per hundred. They may go lower, but probably will go little if any higher. [These prices on cans do not prevail in the East at present.—Ed.]

* * *

Next season will see the passing of Colorado as a comb-honey-producing state. Comb honey will be produced; but three-fourths of the total crop will be extracted if present indications are to be relied upon. Honey prospects are good, so far, altho bees have consumed a great deal of their stores on account of the warm weather. The past week, December 10, has seen a change, however, and we are having a real winter now.

* * *

Here is one defender of the shallow extracting super, even if it is only half depth. The uncapping can be rapidly done, and there is little if any difference in the amount of honey that can be extracted in a day. Then they are more easily handled; and, if wired, are less likely to break out than the full-depth combs. Comb-honey producers can well afford to purchase shallow extracting frames for their supers. They are a decided success.

A warning to be heeded a few months hence. This apiary, owned by John Wallace, of Grand Junction, Colorado, was badly decimated a year or so ago by fruit-tree spraying.

GLEANED BY ASKING

E. R. Root

S. H. S., Virginia. — My bees are infected with European foul brood. I have 18 colonies and want to treat them in the spring, and would be glad if you would advise me as to the best methods. Would it be best for me to buy queens and requeen, or to buy a breeder and raise the queens? Can I save the combs that I now have, or must I do away with them? Can I cure it and get a crop of honey next year?

A. It would be possible for you to treat your diseased colonies next spring. It will not be necessary to destroy any combs, hives, or equipment. We would recommend to you the Alexander treatment. The colony should be made queenless for a period of 20 days, cutting out cells in the meantime if any are developed, and then giving a ripe cell from the best Italian queen that you have. But if you make your colonies queenless for twenty days in the spring when breeding is very necessary, it will put quite a setback to your colonies. It will, perhaps, be advisable to let breeding get started, so that young bees will be hatching out; then make the bees queenless.

If you have a colony in the apiary that does not have any European foul brood, it may be resistant enough to take care of the disease when it appears; but probably it will be safer for you to buy your queens of some company that has a resistant strain of Italians. It would seem best for you to wait until about June 1 before you begin to make the colonies queenless. In this way you would build up the colonies, providing the European foul brood is not too bad.

Had you known, it would have been very much better for you to introduce a resistant strain of Italians last fall when the colonies had no brood in the hive and when they would clean up.

Yes, you would be able to get a crop of honey next season.

W. J. N., Amherst, Mass.—In running for extracted honey, what are the various methods employed for getting the combs cleaned up after extracting? Which of these methods are considered the best and why?

A. It is the usual practice to keep the combs whirling in the extractor until they are as clean of honey as it is practical to get them by centrifugal force. If the extracting is during the midst of the honey-flow, and the combs are to be filled again, they are put back into the hives just as they are. If it is the last extracting of the season, and the combs are not put back on the colonies they may be stacked up in empty supers in the honey-house, wet. This does no harm, and they can be given to the bees next year. But there is one objection to this. If the bees ever get into the honey-house and get at these combs it would start furious robbing. Some, however, at the last extracting, stack the combs up in supers, placing them crosswise and let the bees rob them out clean before they are put away for the fall and winter. This makes more or less of an uproar in an apiary, but usually does no harm, provided, of course, there is no foul brood in the yard, either American or European. The practice, however, is always attended with some risk, because one never knows whether his yard is entirely free from disease.

J. R. W., Washington.—Can you give a reason why a queenless colony above a queen-excluder and bee-escape board, as described on page 96, will not develop laying workers while the same colony placed on a stand by itself will?

A. It is never quite safe to make a hard-and-fast rule in regard to the behavior of bees, for now and then some colony is bound to break it. However, we should not expect the colony described on page 96 to develop laying workers, for their condition is so nearly that of a normal colony. They have good queen-cells in process of construction, and they have a daily accession of young bees—two conditions that are usually lacking in colonies that produce laying workers. It seems quite likely, also, that the daily passing of queenright bees thru their hive might be a partial cause of their immunity from laying workers.

R. L. B., Ohio.—Sugar being scarce, and high in price, a neighbor of mine is experimenting by feeding 20 hives of bees on glucose. What, in your opinion, will be the result—bees supposed to have no other winter stores, on their summer stands, and are seldom confined to their hives over three weeks without a flight.

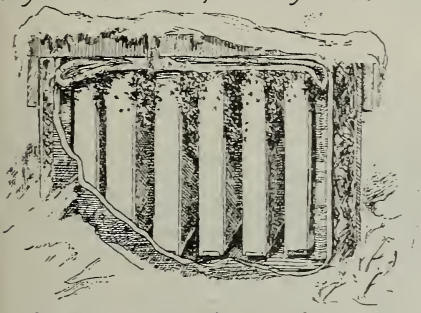
A. We believe that that neighbor of yours could obtain sugar for feeding if he explained to the grocer that its lack would mean starvation for his bees. Our experience has shown that it is almost impossible to induce bees to take raw glucose. We have poured it all over the combs, and even then they would not take it. It has so little sweetening power that the bees would starve to death even if they took it. It would be almost sure to cause dysentery, if they would eat it, and should be avoided by all means. Grape sugar, a similar product made from corn, is much better. It could be used to stimulate bees in the spring to very good advantage; but, dollar for dollar, granulated sugar is cheaper. Brown sugar, if light in color, is all right for winter stores. The dark-brown sugar should be avoided, but it would be far preferable to either glucose or grape sugar. Grape-sugar feeding is questionable practice even when it can be used immediately for stimulating brood-rearing. It is not suitable at all for winter stores.

HEADS OF GRAIN FROM DIFFERENT FIELDS

Mother Bee Nursery Rhymes

By M G.P. (Mother Goose Plagiarized)

The North wind doth blow, And we shall have snow;
And what will the workers do then, poor things?
They'll cluster on comb, And stay close at home



Keeping warm by beating their wings
Poor things!

The Newspaper Plan of Uniting Colonies

I note an editorial in November Gleanings regarding the newspaper plan of uniting colonies, and I hope I may be pardoned for saying that I disagree in a number of particulars. I have practiced this mode of uniting for the last six or seven years, doubling up from fifty to 100 colonies each year. During this time, in only a very few cases have queens been killed by the bees, and in every such case it was at a time when the weather was cold and rainy and the bees were cross hybrids.

I agree that if the weather is hot and the top colony is strong it is advisable to make a small hole thru the paper to prevent smothering, so also if the colonies are weak and the weather cold, as it will then take them too long to gnaw thru. Under ordinary conditions, however, I do not find it necessary or even desirable to make such an opening.

It is not necessary to kill either queen if there is no choice between them and if no excluder is used. The queens will fight it out after the paper is eaten thru. If one queen is of better stock, or otherwise preferable, do it this way: Place a sheet of newspaper and a queen-excluder over the better colony with the paper under the excluder. Remove the queen from No. 2 and set it on top of No. 1. (Beginners will take notice that the cover of No. 1 and the bottom-board of No. 2 are also removed.) If the weather is warm and nectar coming in, queen-cells will be very apt to be started in the upper hive, and the bees may swarm if not attended to; so it is advisable to remove cells within ten days. But if the nights are cool, swarming is not likely to take place, even if cells are started.

Don't cage the queen. I see no reason whatever for caging the queen unless, perhaps, to protect her from the bees, and experience shows that not once in a hundred times will they molest the queen if the work is properly done. We know that bees usually become more belligerent when the weather becomes cool in early fall, and more care must be exercised especially if they are hybrids; but even then the percentage of loss will not warrant caging.

By doubling colonies in this manner in August the workers of use in storing the fall crop die off before winter. In this way the expense of wintering a large number of colonies is avoided, and in spring the apiary can again be built up to normal. As the young bees emerge, the cells are filled with honey. A goodly number of these supers of honey should be reserved for fall and spring feeding. After supers are taken off, some colonies may lack stores and the full combs can then be inserted in place of empty ones. A still easier way is to leave a partly filled super of honey on top of each light-weight colony; and if the weather is not too cold for them to work, the bees will soon carry down the honey that is not capped.

If queens are reared from our best stock during summer, and the nuclei built up to full strength by August, we can eliminate much of our undesirable stock by destroying the old queens and placing the hives upon the new colony as explained above. In this way, also, the young colony is made strong for winter. Eugene S. Miller.

Valparaiso, Ind., Nov. 1.

Syrup not Supposed to Run Out by itself from Boardman Feeder

1. In regard to the Boardman feeder, the cap, as you know, is perforated with but three small holes. Now, I find the syrup and water does not come out as it should. Is it meant that the bees should put their tongues up into the holes, or should the syrup run out slowly? If the former is true, then only three bees can feed at once. If the latter is true, why doesn't it work as it should? I have enlarged the holes, but to no avail. The bees cannot get at it.

2. You say that the division-board feeder

HEADS OF GRAIN FROM DIFFERENT FIELDS

should be placed in the brood-nest. Now, if it is placed in the center of the brood in warm weather I should think that it would hinder the queen's easy passage and would cut off one part of the brood, especially in case of a nucleus. And, again, if placed at the outside of the nest it would be too far away in cool weather.

3. I have been told by others that bees would resent my examining them often, and that they would not do as well. Is that true? How often can bees be examined without dissatisfying them? They do not seem to notice my presence.

4. If the bees are placed in the cellar, would daily walking by them disturb them?

Chicago, Ill. L. Bellman.

[The Boardman feeder as it is sent out is designed to give a small amount of feed slowly. Slow feeding stimulates brood-rearing, while fast feeding unnecessarily excites the colony. In case of a very strong colony, it may be necessary to punch two or three more holes; but usually three holes are enough for a medium colony. Bees will get the feed out fast enough by inserting their tongues into the holes. Several bees can feed at the same hole.

2. A division-board feeder should be placed a little to one side of the brood-nest —usually about two frames from the outside. If the colony is strong, it may be placed at the very outside.

3. A good deal depends on who is examining the bees. An inexperienced person may make the colonies worse each time he opens the hive; but a good beekeeper, or a beginner who has read the directions carefully, can open a hive as often as he pleases without stirring up the bees or hindering their work provided that the manipulation is done during the middle hours of the day when the air is warm. Queen-breeders know that colonies, frequently opened, seem to become used to the operation, and such will often permit one to open the hive without smoke.

4. Bees in the cellar should not be examined more than is necessary; but a constant rumbling noise overhead during daylight hours seems to do no harm.—Ed.]

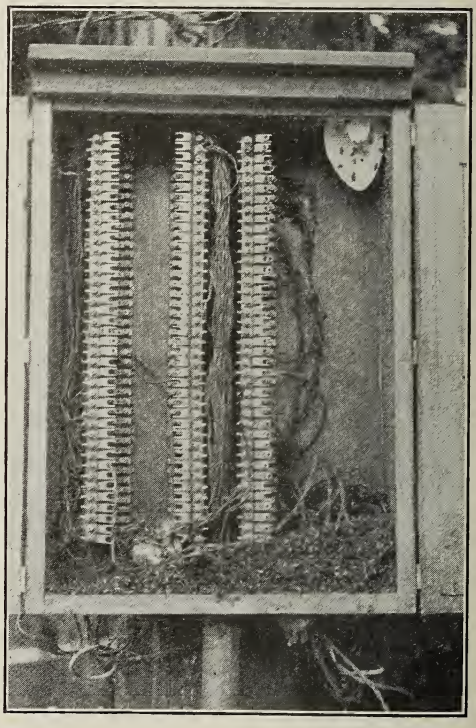
An Appreciation of the Long Idea Hive.

I was very sorry to hear of the death of Mr. O. O. Poppleton. His hive is one that I have tried, and like very well. Really it is a time-saver in many ways, the only hive for migratory beekeeping, so much practiced at the present time. It so is so quickly loaded onto the truck, and moved, that, should I ever have bees in the South, I believe I would use this hive entirely. For next season I plan to have five, each holding 36 Jumbo frames. True, one man cannot move these; but to move many of the regular hives any distance, loading and unloading, the help of another person is usually required. While he who advocated this hive has passed away, yet it will be adopted by many besides the writer.

Point Pleasant, Pa. H. W. FULMER.

Why the Buzzing on the Line Stopped

The accompanying illustration shows a telephone cable-box at Port Byron, N. Y., in which a colony of bees began work. Instead of saving this valuable asset, "poisonous gas" was used for their extermination by C. W. Weston, manager of the Port Byron Telephone Company. He pointed out that, had he been in the honey business, he might have welcomed the visit of a full-sized swarm of bees which took refuge in the company's terminal box located on the main



Telephone cable-box occupied by a swarm of bees.

street of the village. After taking counsel with the local physician and druggist, and receiving no satisfactory advice, Mr. Weston states that his mind wandered back to the old days on the farm where on one occasion he had been compelled to test conclusions with several skunks. He procured some bisulphide of carbon, and with it saturated a

HEADS OF GRAIN FROM DIFFERENT FIELDS

handful of cotton waste and packed it in every aperture of the terminal box. The next evening it was found that the fumes had done their work.

Buffalo, N. Y. Frank C. Perkins.

County Agent Starts Bee Clubs

"I find that boys take as kindly to bees as to pigs and chickens when their interest is aroused," says Bruce Anderson, county agent of Forsyth County, North Carolina. He is the first demonstration agent in the South to include lessons in bee culture as essentially a work of the county agent. The United States Farmers' Co-operative Demonstration Work has recognized the value of his efforts, and provisionally incorporated beekeeping instruction to farmers in his demonstration-work program.

Bruce Anderson, county agent, in his own bee-yard.

It was in the spring of 1914 that Mr. Anderson began an effective campaign to revive bee culture in Forsyth County. His twenty years of personal experience was, of course, a valuable asset. He organized twenty men and women into a county beekeepers' organization. So the plan of instruction in bee culture was carried from farm to farm by the county agent. The original one-unit organization was broken up into numerous clubs.

Splendid results were achieved. The membership in the bee clubs numbers 52, more than doubling within a year. The work has branched out to five other neighboring counties. The agent states that he is unable to answer all the demands placed upon him for help and information.

Durham, N. C. S. R. WINTERS.

Numbering the Covers Instead of the hives.

I used to number my hives so as to keep a record or to refer to each one easily; but when I sometimes took a colony out of one hive and put into another the number had to be changed and it made confusion.

I now have a better way. I put the number on the gable end of the cover, front and back. No matter where the colony of bees goes, it is an easy matter to let the number go with them—simply a matter of changing covers. Alson W. Steers.

Noosack, Wash.

One of J. Alpaugh's papaya trees at Lakeland, Florida. This shows that the papaya tree as pictured on the November cover can be grown in Florida as well as in Cuba.

HEADS OF GRAIN FROM DIFFERENT FIELDS

Shredded-Wheat Boxes for Winter Cases

The description of the Demuth winter case and the statement regarding its low cost have led me to submit a sketch and description of the winter case I use and which I believe may be more cheaply made where shredded-wheat cases are obtainable. These boxes are 15½ in. wide by 24½ long by 17½ high, and they may be purchased at almost any grocery for ten cents each. Two of these nailed together (after removing one long side on each) with strips on the inside make a fine case for one ten-frame hive, the size furnished being 24½ in. wide by 31½ long by 17½ high. The material is of ⅜ stuff, white pine, matched, smooth on the outside and is very well put together. I line the cases with a number of thicknesses of newspaper and also make a ¾-inch-thick pad of newspaper 14 x 24 to fit underneath, and between sides of bottom-board. No other packing is used under the hive, but a few extra thicknesses of newspaper are used in the bottom lining of the case. Covering the hive-body is a queen-excluder which keeps the burlap and packing in super away from frames. I use elm leaves gathered from my lawn for the packing, and find them very good. The packing space around hive is 4 and 5½ in. as shown.

Before beginning to pack I cover the entire sides with a half-width strip (16 in.) of tar paper. When packed the covers of boxes are laid on without nailing, and then covered with a tar-paper sheet of 32 x 42 in. which laps well down on the sides and is then tacked every 3 in. with ¼-in. tacks which are easily removable when unpacking. I do not cover the bottom.

The cases are set on the summer stands, giving pitch of about 1½ inches to shed water.

WILLIAM L. FUCHES.

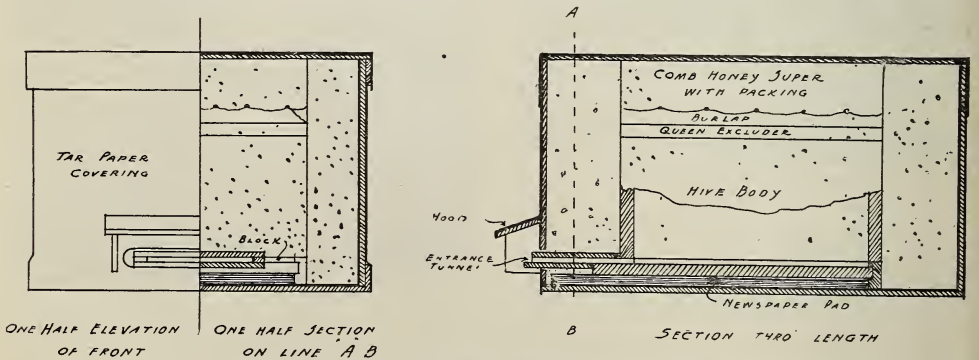
Buffalo, N. Y.

[Near the larger cities these wooden shipping-cases would probably be available. We cannot get them in Medina. Heavy strawboard cases are used for shipping.—Ed.]

Why honey needs solid bracing in a car. In this instance the car was bumped so violently that the honey went right on thru the end.

Large Lemon Grove Covered with Netting.

For the purpose of experimenting, a six-acre lemon-grove was covered with tobacco cloth, a strong kind of mosquito-netting. The covering was about sixteen feet high, and was supported by wire and posts. This, I thought, would be a fine chance to try mating, fertilization, and purity of lemon honey.



Shredded Wheat shipping-box used for a winter case.

HEADS OF GRAIN FROM DIFFERENT FIELDS

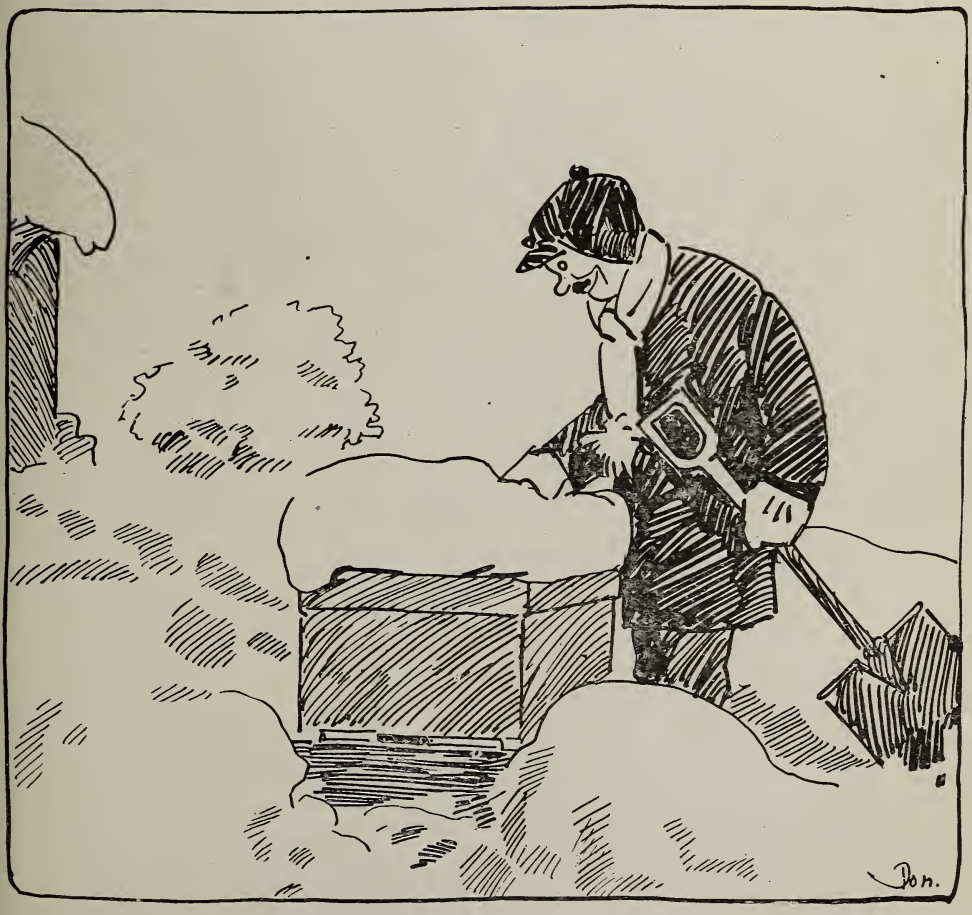
One strong colony and one of medium strength were placed in the grove and given sections of drawn combs. In a short time the strong colony filled twelve or fifteen sections quite full. But both colonies dwindled very rapidly, and in a few months died out entirely. So far as I could learn, the cause was the close confinement and lack of pollen. If artificial pollen had been supplied, I believe it might have helped somewhat.

The honey was very light, of an excellent flavor, but with none of the tartness of the lemon.

I was told by the manager of the grove that the trees increased their yield fourfold while under the covering, and dropped back to the old amount when it was removed. While I feel that bees are a great agent in the fertilization of the lemon blossom, the experiment was not continued long enough to prove anything conclusively, as an unusually heavy wind tore and wrecked the structure so that it was decided to remove it. The lemon having some bloom at all seasons of the year, with more during the early spring, led me to think this an excellent chance for experiment.

The owner hoped with this covering to get a more even temperature—warmer in winter and cooler in summer. It is possible that they may again try the experiment, in which case I will endeavor to continue my investigations.

Corona, Cal. L. L. ANDREWS.



THE BACKLOT BUZZER

BY J. H. DONAHEY

Benny Sourweed, who stutters some, says his nephew, over in France wrote him, that one of them Hun-Hun-Hun-ee-bees, stung him right in the eye.

JUST NEWS

Editors

THE annual meeting of the National Beekeepers' Association will be held at Burlington, Ia., on Feb. 19, 20, 21, 1918. John C. Bull, secretary - treasurer of the National, sends word that the meeting will be held in the Remy Hall, which is one of the finest in the city, and that the program that is now being arranged will be sent to Gleanings in time to appear in full in the February number.

* * *

The annual meeting of the New Jersey Beekeepers' Association will be held at Trenton, on Jan. 24 and 25, 1918. Among those who will speak are Dr. E. F. Phillips, Editor E. R. Root, S. D. House, and N. L. Stevens. This meeting is held during agricultural week, in conjunction with the allied agricultural meetings. A large attendance is expected.

* * *

Word comes from Cuba that the honey crop will be short on account of the exceptionally cold weather that the Island Republic has recently had. During the last three weeks of November the temperature was continually below 70, which was an unusually long and cold spell of weather for Cuba.

* * *

L. V. France, of the College of Agriculture, University Farm, Minn., is sending out a warning that the bees of Minnesota will need special care this winter. He says that many beekeepers have already fed sugar syrup to bees that have not enough stored food. The Minnesota State Beekeepers' Association will meet to discuss methods of keeping up the honey production of Minnesota for the period of the war and longer, at University Farm, Jan. 4.

* * *

The second annual meeting of the Arkansas Valley Beekeepers' Association met at Wichita, Nov. 23, for a two-days' meeting. Kansas is divided by beekeepers into four districts, membership in each of the district associations carrying with it membership in the state association. The program was furnished by members of the local association, with one exception, that of Frank C. Pellett, of Atlantic, Ia., whose lantern-slide lecture on the evening of the 23d was both interesting and profitable. At the close of the session at 12, Saturday, Nov. 24, the members present partook of a honey banquet of which all the dishes were prepared with honey.

* * *

The Massachusetts State Board of Agriculture will hold one of its biggest meetings at Worcester, January 8, 9, and 10. The program includes speakers of national reputation. Beekeepers, as well as farmers, cannot afford to miss it. Wednesday, Jan. 9, at 1 p. m., the beekeepers of Massachusetts will meet in the library of Horticultural Hall to discuss matters of general beekeeping interest.

* * *

Beekeepers of Florida are taking an increased interest in organization, the best evidence of which was the Tupelo Honey Exchange which came as the result of the meeting held at Wewahitchka, Florida, by Georgia and Florida beekeepers on the Appalachicola River. J. J. Wilder, of Cordele, who was elected president, was the principal mover in the work.

* * *

The Ontario Co., N. Y., Beekeepers' Society will hold its annual meeting at Canandaigua, N. Y., courthouse on Tuesday, Jan. 15. F. Greiner, Naples, N. Y., is secretary, who will be glad to give further information.

* * *

Price Committee of Chicago-Northwestern Association.

At the 1917 convention of the Chicago-Northwestern Beekeepers' Association held in Chicago, Nov. 30, Dec. 1, the following important resolution was adopted.

"Whereas, the committee appointed at the 1916 meeting of this association for the purpose of investigating conditions for marketing honey and for recommending to producers a schedule of minimum prices for the season of 1917, has performed its work to the satisfaction of the association, resulting in more fair and more uniform prices to the producer; therefore be it

"Resolved: That the work of the committee be continued thru the season of 1918 and extended in so far as the funds of the association will permit, and that the president be empowered to appoint the members of such committee."

The following were appointed as Committee on Prices for 1918: John C. Bull, Sec.-Treas. Chicago-Northwestern Beekeepers' Association, Valparaiso, Ind.; E. D. Townsend, Northstar, Mich.; L. C. Dadant, Hamilton, Ill.; Edward Hassinger, Jr., Greenville, Wis.

In discussion of the resolution it was shown that the purpose of the committee is not to boost prices to an unreasonable or exorbitant figure, but to keep producers informed in regard to reasonable retail prices for their product and in this way endeavor to overcome the practice among uninformed beekeepers of retailing honey at or below wholesale or jobbing prices. A canvass of the members of the association present at the convention showed that nearly all were obtaining prices for their honey not less than those recommended by the committee; whereas, a year ago a similar canvass show-

ed selling prices varying from 10 to 25 cts. a pound.

All interested in receiving reports and price recommendations of the committee should write to Mr. Bull.

E. S. MILLER, Pres.

Valparaiso, Ind., Dec. 6, 1917.

* * *

Recent State Beekeepers' Conventions.

With the exception of two, the Editor of Gleanings has attended all the state conventions up to the first of January. Generally speaking, the attendance was a little below that of last year, owing perhaps to the fact that the honey yield was not as large in 1917 as in 1916. It is a very noticeable fact that the attendance at conventions bears an almost direct ratio to the amount of honey secured during the season. Another factor which worked against large attendance this year was the difficulty of travel on account of so many trains being taken off and others overloaded. Practically every train that took us to conventions was anywhere from two to five hours late; and the result was that we were able to be present at only one or two sessions of each, and had to skip two conventions altogether.

The Ohio meeting held at Lima, that of the Ohio Beekeepers' Association, was the smallest of any of the conventions we attended—but the enthusiasm was good.

The attendance was larger as we went westward, as the honey yield had been. The convention at Des Moines was about the same in size as that of last year. The Minnesota meeting was the largest one of this winter, some of the sessions having an attendance of 300. The convention at Madison was not quite as large, but in point of enthusiasm and papers read it was one of the best we attended. This association has started out on a propaganda of cleaning foul brood out of the state.

The Indiana State Beekeepers' Association held its annual meeting in the State House in Indianapolis on Nov. 26 and 27. Owing to the short crop and bad weather the attendance was not as large as expected. However, it was an enthusiastic meeting and several interesting talks were given. The writer was unable to attend, but was represented by J. A. Warren, who gave a very interesting talk on "Markets." Prof. D. A. Rothrock, after making a careful investigation on honey production, gave figures that would seem to indicate that the government estimate of 49 lbs. for Indiana was too high.

The Michigan Beekeepers' Association meeting was held at Saginaw, Nov. 27 and 28. The number of members attending was small for Michigan, owing to poor train service, nearness to Thanksgiving, and the short crop this year. Floyd Markham, of Ypsilanti, won the manufacturers' gold medal for the third time, and it thus became his permanently. Upon solicitation of Mr. Tyrrell, of Detroit, a committee was appointed who will have charge of the making of an exhibit of bees and honey at the state fair. The exhibit will be furnished by members; and after the fair it will be sold and the money returned to those who furnish the exhibit. All exhibits of honey will be made in uniform containers which will be furnished by the committee. A banquet was enjoyed on the evening of Nov. 27. The next annual meeting will be held at Battle Creek.

The Syracuse meeting of the New York state beekeepers we were not able to attend, because it came in direct conflict with the dates we had previously made for Minneapolis and Des Moines, but we are informed that the attendance was good.

The last meeting of the series was held at Toronto, Canada. The number present was about the same as that of last year, and the enthusiasm was above par. The Toronto meeting had its usual banquet that was one of the best we have ever attended. The province of Ontario is doubtless ahead of any state in the Union in the amount of honey produced, and also in the number of large producers, unless it be California.

At all the meetings that we attended there was a feeling that 1918 is going to be a big year for high honey prices, and possibly for a large yield. Every beekeeper present seemed to feel the importance of speeding up, because it is a case of now or never.

The newly elected officers of the various state conventions, so far as we have been able to get them, are as follows: Ohio—E. M. Caldwell, Defiance, president; J. E. Varnard, Wilmington, secretary. Illinois—Dr. A. C. Baxter, Springfield, president; James A. Stone, Springfield, secretary. Indiana — Mason J. Niblack, Vincennes, president; R. B. Scott, LaGrange, secretary. Iowa—B. T. Bleasdale, Des Moines, president; Hamblin B. Miller, Marshalltown, secretary. Minnesota—Prof. A. W. Rankin, Minneapolis, president; L. V. France, St. Paul, secretary. Wisconsin—N. E. France, Platteville, president; E. D. Hassenger, secretary. Michigan —B. F. Kindig, East Lansing, secretary. Ontario—James Armstrong, Selkirk, president; P. W. Hodges, secretary.

* * *

An increase of $15,000 to the regular appropriation for the apicultural department of the U. S. Dep't of Agriculture was granted by the Secretary of Agriculture last fall, to stimulate honey production as a war-food measure. This action has enabled Dr. E. F. Phillips to appoint a number of special field agents, who will carry on extension work thruout the country, and especially in the West and Pacific Coast region. E. F. Atwater of Meridian, Ida., is one of the additional field agents appointed, and will have his special field in California, Arizona, and New Mexico. We understand that P. C. Chadwick, of Redlands, Cal., and Mr. Erbaugh, of Indiana, are among other appointments made, the latter to do work in Illinois.

Charity doth not behave itself unseemly, seeketh not her own, is not easily provoked, thinketh no evil. —I. COR. 13:5.

Search me, O God, and know my heart; try me, and know my thoughts; and see if there be any wicked way in me, and lead me in the way everlasting. —PSALM 133:23, 24.

SOME time ago our old pastor, Rev. A. T. Reed, paid a visit to our Medina people after an absence of several years. In shaking hands with different ones of his old friends he made the remark to one of them. "Why, my good friend L., you do not seem to have grown *any smaller* since I knew you years ago."

Perhaps I should remark here that L. always was a pretty good-sized man—good-sized particularly sidewise instead of endwise; but what I want to speak of just now is the reply that L. gave to his old minister. It was something like this:

"It is true, Mr. Reed, that I am but little if any smaller than I was years ago when you knew me so well; but if I am *not* any *smaller* than I used to be, I am a great deal *better* man than I used to be."

Of course, this was meant as a joke, and there was a big laugh all around among the bystanders. I think I laughed heartily with the rest. But the words of our good friend L. have been following me more or less ever since. Can I say of myself just now, and say it truthfully, that I am a *better man* than I "used to be"?

Now, dear friends and readers of GLEANINGS, how is it with *you?* and I put this question not only to the men but to the women also—can you or can we answer truthfully, the question, "Are you and I better than we used to be?" If not, is it not high time (before we get to be any older) to set about the serious work of getting to be better husbands, better wives, and better fathers and mothers than we used to be? In other words, to put it short, are we growing in *grace* as we grow in years? To come right down to self, I honestly believe I am making *some* improvement; but, oh dear me! when I think of the impatient and wicked thoughts that come into my mind I feel almost discouraged. Again and again I feel the necessity of using that little prayer, "Lord, help!" and then the other one, a little longer, "Create in me a clean heart, O God, and renew a right spirit within me."

I am going to tell you one of my besetting sins, and may be it is also one of yours. It is this: To yield to the temptation to criticise and find fault with my friends and neighbors. When we sit down at the table, if we are not careful we get to commenting on somebody and speaking unkindly of the absent ones. I wonder if my friends and neighbors ever discuss A. I. Root in the same way, and speak of his faults and failings. I wonder if it ever occurs to them how badly hurt I should feel if I should happen to overhear some of their comments. And, again, how hurt they might feel if they knew how I have at times been criticising *them.* I think I heard somewhere an injunction something like this: "Never say a thing behind a person's back that you would not say to his face;" and I have sometimes wondered if there is *anybody* who lives up to that strict rule. Now, please do not misunderstand me. There are certain things that must be discussed and talked over before we go to the person and kindly plead with him. Perhaps a child has been going wrong. It is certainly well and wise for the father and mother to talk it over, and get all the facts possible before dealing with the delinquent himself. It has been suggested that, instead of discussing the absent one's faults and failings, we should go directly to him and say what needs to be said. But, dear friends, if you have ever tried it you probably know that it is "ticklish business," if I may use the term. You are very likely to do harm instead of good. Let us turn it around the other way. If some friend comes to you, even with the best intentions, and tells you of your shortcomings, are you sure you will take it all right? An illustration occurs right here. When I used several pages a while ago to warn people about investing in a potato-pen (see page 559, July) some good friend reminded me of the space I had occupied to expose a fraud in "war gardening," and I confess I felt hurt, at least a little, especially since it has turned out as he said. I might remark right here that the best potato-pen in Medina (and there are several of them) promises to yield perhaps thirty or forty *quarts* instead of bushels, and the potatoes are small at that.

Well, friends, how are we going to go about it to become better men and women than we used to be unless somebody is kind enough to tell us of our faults and besetting sins? As a rule we shall never recognize them unless somebody is kind enough to call our attention to them.

Years ago I read a fable to the effect that everybody carries with him two sacks—one always in front and the other always behind, strapped to his back. As he goes along he notes the faults of his neighbors and puts them into the sack right before him. His own faults he throws over his shoulder into the sack behind where he soon forgets all about it, because he cannot see them. The faults of his neighbors are right before his face where he sees them constantly. Now, I did not know until quite recently that the good old Bible tells us *exactly* what to do in order that we may be better men and women than we have been in years that are past and gone. It is one of the little texts that come to me every now and then as if it were written across the sky in letters of gold. I have read the 139th Psalm a good many times; yes, and I have heard read the two concluding verses, but I did not think much about it. I think it was, perhaps, in the nighttime when I was considering this very matter of being a better man than I had been, that these precious verses came suddenly up before my mental vision—"Search me, O God, and know my heart; try me, and know my thoughts; and see if there be any wicked way in me, and lead me in the way everlasting." That was David's prayer, away back ages ago; and even if he was, on one occasion, a sinful and wicked man, these verses imply that he had repented; and, oh what a repentance that must have been! Recognizing his evil nature when unrestrained by the grace of God, he gives voice to those beautiful words. Dear reader, can you on bended knee unite with me in saying, "Search me, O God"? and then, again, "Try me"? That would mean subject me to temptation and see whether I should come out victorious; and that final thought, "and *see* if there be any wicked way in me."

I have just been getting beans from my war garden. I thrashed them out, and then poured them from one big pan to another out in the wind. After I had got thru Mrs. Root picked them over. If I take great pains and make a good job of it she has very little trash to pick out except the beans that have become stained or colored by the abundant rains we have been having. Well, after I am ready to submit them to her scrutiny, and spread them out, I look them over very carefully to see if there is anything I have overlooked. Now in a similar way David prays that the Holy Spirit may *spread out* his inmost thoughts and look them over, and see if there be any "wickedness" that *he himself* has overlooked.

Suppose, dear friends, the whole wide world should make David's prayer their own. Can you—can any of us—conjecture what would happen? Suppose not only the "coal barons" and the grain speculators should ask God to point out to them *their* shortcomings, but suppose also the farmers, the publishers—yes, even the publishers of our daily papers—should go to hear Billy Sunday or some other evangelist, and should honestly get down on their knees and ask God to see if there is anything unneighborly in their lives or conduct. Why, it is a joke to suggest it; and yet, my good friends, we are all human and all selfish—every last one of us. If you are, each and all, as bad and wicked as your old friend A. I. Root (unless it be by fits and starts) you can honestly unite with me in saying, "May God have mercy on the poor sinful 'bunch' of all of us."

Dear friends, I am dictating this on the 8th day of October. As I do not have any stenographer down in my Florida home, and as I am often so busy down there that I do not get time to send in a Home paper, it occurred to me to dictate several ahead of time; and this one may possibly appear in the January number. If it does, it will suggest to you a way to start out the new year so that *you* can say not only to your fellow-men but to the great heavenly Father also, "I honestly believe I am a better man (or woman) than I *used to be.*"

(*The sequel to the above Home paper will be found in our issue for February.*)

SOMETHING ABOUT "ENLISTING."

Every little while since that Home paper, the question keeps coming up again, "For whom are you working?" Some good friend has just sent me a little tract that just "hits the spot." Here it is:

SPURGEON'S LAST SERMON.

The closing characteristic words of Mr. Spurgeon's last sermon on June 7, 1891, were as follows:

"What I have to say lastly is this: How greatly I desire that you who are not yet enlisted in my Lord's band would come to him because you see what a kind and gracious Lord he is. Young men, if you could see our Captain you would go down on your knees and beg him to let you enter the ranks of those who follow him. *It is heaven to serve Jesus.* I am a recruiting sergeant, and I would fain find a few recruits at this moment. Every man must serve somebody; we have no choice as to that fact. Those who have no master are slaves to themselves. *Depend upon it, you will either serve Satan*

or Christ, either self or the Saviour. You will find sin, self, Satan, and the world to be hard masters; but if you wear the livery of Christ you will find him so meek and lowly of heart that you will find rest unto your souls. He is the most magnanimous of captains. There never was his like among the choicest of princes. He is always to be found in the thickest part of the battle. When the wind blows cold he always takes the bleak side of the hill. The heaviest end of the cross lies ever on his shoulders. *These forty years and more have I served him, blessed be his name! and I have had nothing but love from him.* I should be glad to continue yet another forty years in the same dear service here below, if so it pleased him. *His service is life, peace, joy.* Oh that you would enter on it at once! God help you to enlist under the banner of Jesus, even this day. Amen."

I wish especially to emphasize the words, "You will find sin, self, Satan, and the world to be hard masters; but if you wear the livery of Christ . . . you will find rest for your souls." Spurgeon says he gives the above after an experience of over forty years or more. Well, dear friends, it is just about forty years since I enlisted under the banner of the meek and lowly Nazarene; and I can give a loud amen to what Spurgeon says in the above. It has been just my experience. Let me repeat again what he says in closing: "God help you," my friend, "to enlist under the banner of Jesus, even this day."

Since we have been sending out so many thousand of the little tract, "How to Be Happy," etc., tracts have been coming in return from the various tract societies thruout our land. Of course I did not have any idea there were so many. Such a great number of tracts have been submitted that I can hardly take time to glance over all of them; but my conscience troubles me if I do not take at least a brief look at the various ones submitted. I have just now run on to a gem. Please notice the 11th and 12th lines how wonderfully it comes in with my tract, "How to be Happy when People Abuse You." Here is the tract. The italics are my own. May God bless this message.

THE HOUSE INSIDE

I have a house inside of me—
A house that people never see;
It has a door thru which none pass,
And windows, but they're not of glass.
"Where do you live?" ask folks I meet;
And then I say, "On such a street;"
But still I know what's really *me*
Lives in a house folks never see.
Sometimes I like to go inside,
And hide and hide and hide and hide,
And "doctor up" my wounded pride
When I've been "treated rough" outside.
And sometimes, when I've been to blame
I go indoors and blush for shame,
And get my mind in better frame,
And get my tongue and temper tame.
I meet my heavenly Father there;
For he stoops down to hear my prayer,
To smooth my brow and cure my care,
And make me brave to do and dare.
Then, after I have been made strong,
And have things right that were all wrong,
I come outside, where I belong,
To sing a new and happy song.
Then I can hear the people say,
"You're bright and bonnie, good and gay,"
And it's because I feel that way;
But they don't know the *price* I pay.
You have a house inside of you,
Where Christ will fight your battles too.
God's word will tell you what to do,
And make your heart clean, kind, and true.

—*S. W. Grafflin.*

HIGH-PRESSURE GARDENING

HIGH-PRESSURE POTATO-GROWING.

Dear Sir:—Enclosed you will find a clipping taken from the Kingsville *Reporter*, of which staff I am pressman. I live on the lot adjoining that on which these potato sprouts were planted and grown; and if I had been told that potato *sprouts* would stand the amount of rain these got, and then yield as fine a crop as was dug from them I could have hardly believed it. Now just a few lines to those who want to make their potatoes go a long way. Why not take berry-boxes and plant the sprouts in them, say four in each box; and then when the weather permits plant them in the open ground? By so doing one could have early potatoes and still have the original seed for late planting.

E. M. ANSON.

Kingsville, Ont., Canada, Oct. 29, 1917.

Below is the clipping referred to:

POTATOES FROM SPROUTS.

In our boyhood days we were always given to understand that potatoes would not grow from sprouts detached from a potato, as the potato furnishes nourishment for the sprout and is necessary for its growth, and that the larger the potatoes the better would be the new crop. This idea, like a great many other things that are being thrown aside today as erroneous, has been disproven by Mr. Colin Quick, of this town. Last spring he broke sprouts from his potatoes and planted a lot; and when he dug his crop this fall, he found that the sprouts had produced fully as fine tubers as those grown from potatoes. Samples of the sprout-grown article may be seen on our office table. The potatoes from which the sprouts were taken were then cooked and used in the usual way. Mr. Quick says that seed can be multiplied three times by taking off first sprouts, letting a second lot come out, taking them off, and then cutting and planting the original potato.

My good friend, what you advise is exactly what I was doing last winter in my Florida garden when I grew two good crops of potatoes on the same ground in one winter. Yes, you *can* grow good potatoes from sprouts, providing you have very rich soil

and a good long season; but you will get a great deal quicker result by the plan I gave last winter. Instead of letting your good-sized potatoes sprout in the cellar or somewhere else, put them in a greenhouse; or, if you cannot do any better, in a box in the window in the very best of rich compost. When the sprouts get to be two or three inches long (and perhaps have *some* little green leaves) instead of pulling off the sprouts, cut a little piece of potato with it, with the bushy roots adhering, and some of the rich soil also; and I would put just *one* of these in the strawberry-box until the weather would permit of putting them outdoors. When you cut out this little potato-plant you can put the big potato back again, and (later on) get more potato-plants; or you can use the big potatoes for table use and still have the *seed* for planting. In this way I have made one large potato give a dozen good strong thrifty plants, and in due time I had a dozen good hills of potatoes, and these were all or nearly all large because they were grown on Terry's single-eye system. Potatoes are already worth $1.75 a bushel here in Ohio on this first day of November. I think they retail for about 50 cents a peck, and the probability is it will pay big to start potatoes next spring in the greenhouse, hotbed, or cold-frame, or in a box in the window if you cannot do any better.

THE ALGAROBA-TREE OF THE HAWAIIAN ISLANDS.

When I saw that wonderful story of algarobas giving 200 tons of honey, (GLEANINGS for January, 1917) I at once applied to the Reasoner Brothers, of Oneca, Fla., and to my happy surprise found they had the very trees in stock. Half a dozen were at once installed in my Florida garden, but the great frost the first week in February used them up. I have been planning to try it again this winter as soon as I get back. The matter was brought to mind by the following letter just received:

I should like to state that I nave some Hawaiian algarobas growing. I have 7, and the largest is about 4 feet high. I got the information about the algaroba from GLEANINGS, January, 1917, and got my seed from Mr. Oswald St. John Gilbert, Honolulu, H. I. I will let you know how they stand the winter and how much they have grown by next spring.

Tampa, Fla., Sept. 5. P. W. HAYS.

TEMPERANCE

PRAISE GOD FOR ANOTHER VICTORY.

The letter below illustrates the stuff that beekeepers the world over are made of:

Brother Root:—Note the great victory which we achieved in the election for our fair city: We had a pretty hard siege of it, in face of all the opposition; but united effort all along the line gained the point, which was lost at a recent election about a year ago.

Glendale, Cal., Nov. 21. GEO. W. BERCAW.

Below is the headline of the *Los Angeles Examiner* of Nov. 21:

VOTES OUT SALOONS BY NEARLY 20,000.

And here is something more that is encouraging from the *Tampa Times*:

BIRMINGHAM'S PROHIBITION EXPERIENCE

Just a few years ago Birmingham, the great rolling-mill center, was one of the "toughest" cities in this country, and none had a worse murder record. The wonderful strides of the city in an industrial way were offset by the unlawful conditions that prevailed.

But when prohibition became effective in Alabama, Birmingham began to reform, and today it doesn't "know itself." The changed conditions are shown by the police records and by the fact that Birmingham has recently offered a magnificent new jail to the government as a war hospital. Birmingham doesn't need the jail for the housing of wrong-doers, so it offers it to Uncle Sam for the housing of patriotic soldiers.

With such examples before them it is difficult to understand why any people object to the drubbing that John Barleycorn has been given in recent years. Instead of objecting, it seems that they should adopt the motto, "Lay on, McDuff!"

"WE HAVE THE SAME BREED OVER HERE."

We clip the following from *The National Enquirer*.

BRYAN USES A SLEDGE IN ATTACK IN CITY OF BROTHERLY LOVE.

Among other things, Mr. Bryan said:

"We cannot afford to take bread from the tables of the world to make men drunk at a time when we dare not allow the impairment of our men."

"Uncle Sam has decreed that soldiers who are to fight for him must be sober. If it is good to save the strength of the soldier at the front by keeping from him the poison of alcohol, why is it not good to keep at a maximum the strength of the men behind him, the man who is producing food, making munitions and war supplies for the soldier?

"We have a million men in arms today," he continued, and then changing quickly he asked: "Do you want to know who the disloyal men of this nation are? I'll tell you.

"If the brewers, distillers, and saloon-keepers of this country had their way they would make drunkards of all those million men in arms and leave us defenseless before a foreign foe."

He was greeted with thundering applause as he drove this home by telling of the experience in Great Britain when Lloyd George tried to close the saloons there.

"But the liquor men of England cried: 'Let the nation die first' when the saloon was threatened. And we have the same breed over here."

Can it be *possible,* dear friends, that we have those here in America that would say, "Let the nation die first," when the saloon is threatened?

THE LIQUOR BUSINESS AND THE WAR.

If I regard iniquity in my heart the Lord will not hear me.—PSALM 66:18.

Again and again I have been urging that the reason why God does not answer our prayers for peace is because we as a nation are still cherishing and regarding iniquity. We are accepting revenue from the liquor traffic; and not the United States alone, but the nations of the world—at least a great part of them—seem to be cherishing and holding on to this iniquity. From the clipping-sheet of the Methodist Board of Temperance of Nov. 3, take the following:

THE ITALIAN DISASTER ATTRIBUTABLE TO THE DRINK TRADE IN GREAT BRITAIN, FRANCE, AND AMERICA.

A few months ago an Italian mission in Washington was pleading for fuel and munitions. Everybody knew it. Also, everybody knew that practically nothing was being done for Italy because the ships were lacking.

The ships were lacking because material and labor was lacking.

Material and labor were lacking, according to the testimony of hundreds of industrial leaders, because drink was cutting the efficiency of labor and preventing its full-time effort.

If the French had prohibited the drink trade entirely at the beginning of the war, the Italian disaster would not have occurred.

If Great Britain had prohibited the drink trade a year ago, the Italian disaster would not have occurred.

If the United States had prohibited the drink trade in April, Cadorna would have been at Trieste and Laibach.

The chances that the war will end in 1918 are slowly glimmering out. Unless the nations opposing Germany stop their fooling now, and begin to make a full-time one-hundred-per-cent effort, only God knows when it will end.

It is true we have forbidden our soldiers here in America to drink, and we have forbidden saloon-keepers to sell them drink; but how about the drink business when they get over into France and other nations where there is no such prohibition nor any kind of prohibition? And, again, how about those left here at home to protect our homes and to provide food, fuel, and clothing? Is there any justice in cutting off the drink from those who go to war and leaving those who remain here at home to drink or not drink as they may feel inclined, as it has been in the years that are past? A temperance speaker, one of our own townsmen, in a temperance meeting on Sunday evening, Nov. 4, said if we retained our saloons, and peace should come, every soldier who returns to our shores would be urged by saloon-keepers at every turn to come in and drink, free of charge. Shall this be permitted?

"BONE-DRY."

The food law authorizes the President to suspend at his discretion the manufacture of beer and light wines; distilled liquors are already prohibited. A movement is under way to bring strong pressure to bear on the President and Congress, to discontinue the manufacture of beer in the interest of food conservation. Food-pledge workers and workers generally for food conservation the past season frequently have been met with: "Why should we substitute and stint ourselves when so much grain is going into the making of beer?" And the resentment in this argument is uncontrovertible.—*Ohio Farmer.*

NO-TOBACCO LEAGUE OF AMERICA.

The above is the heading to a letter just received from The National Camp, Bethany, W. Va. It reads as follows:

Mr. A. I. Root:—You have been placed upon our mailing-list as one who is interested in the suppression of the tobacco evil, and we wish to do what we can to help you in your opposition to this traffic.

I enclose our third annual report, which should convince you that this effort will succeed—so we invite your co-operation. Can you not distribute some literature, get an appointment for a meeting, interest a church, a young people's society, or some individual or organization in this work? Send us your own remittance.

We desire to reach 50,000 children this year; but this can be done only by the co-operation of a large number of people. If your financial support is impossible now, may we not have a word from you saying what you can do? and may we not count on your prayer for no-tobacco?

H. T. SUTTON.

Bethany, W. Va., Oct. 25, 1917.

In response to the above I sent a small contribution. We are giving so much to the tremendous calls we are having that I could not well, just now, do more. Perhaps some of our readers can also help a little. Right along the same line I make a clipping from the Butler, Ind., *Weekly Record*:

They are already coming to it. The High-Y Club of Auburn discussed liquor and tobacco at its meeting last Thursday. Liquor and tobacco belong *together,* and their place is together—in the bottomless pit.

In Indiana alone last year $50,000 worth of property is known to have been destroyed by careless smokers. In a Wisconsin city a lighted cigarette started a fire that caused losses amounting to $150,000. This, is not the imaginings of an anti-tobacco crank, but the report of the Indiana State Fire Marshal.

TWENTY-FIVE CENTS' WORTH OF "ENJOYMENT."

I am an admirer of A. I. Root, and I take much pleasure in reading articles from his pen. It is more of a temptation than I can resist to read articles written by him for the next four months, so I enclose a quarter. I know of no way in which I can spend 25 cts. and get more enjoyment from it than this. W. G. BRAINARD.

Gouverneur, N. Y., May 15, 1917.

HELP WANTED

WANTED.—Experienced beeman for season of 1918. J. W. George Bee Co., Holtville, Cal.

WANTED.—Experienced bee-man for next season. State terms. R. S. Becktell, Rifle, Colorado.

Situation wanted for 1918.—I understand queen-breeding thoroly, and the combless-package business also. If you want a first-class all-around beeman I can fill the place. M. G. Ward, Duncan, Ariz.

WANTED.—Young man to assist in caring for 700 colonies and some poultry. State age, wages, and experience in first letter.
E. L. Lane, Trumansburg, N. Y.

EXPERIENCED BEEMAN wanted to work mountain apiary on percentage. Fine hunting and climate. References given and required.
C. F. Alexander, Campbell, Cal.

WANTED.—For the honey season of 1918, two students of good clean habits, willing and able to work. Board given, and more if conditions are favorable
R. F. Holtermann, Brantford, Ontario, Canada.

WANTED.—Wide-awake beeman, above draft for 1918. Must be experienced in every phase of the bee business; must be handy with tools, as I make my hives. Have outyard, and run mostly for extracted. J. W. Potts, Gunnison, Miss.

HELP WANTED.—A good reliable man to work on a small farm and help take care of 400 swarms of bees. Would lease the complete outfit to responsible party. Good locations for all the bees. Address S. R. Stewart, Newcastle, Colo.

WANTED.—Young men of energy and character, of clean habits, not eligible for military duty, as helpers in our extensive bee-business. Fine chance to learn. Write immediately, giving wages, age, height, weight, experience, and references all in first letter, or expect no answer.
E. F. Atwater, Meridian, Idaho.

WANTED.—Industrious young man, fast worker, as a student helper in our large bee business for 1918 season. Truck used for out-yards and hauling. Apiaries located near summer resorts. Will give results of long experience and board and small wages. Give age, weight, experience, and wages in first letter.
W. A. Latshaw Co., Clarion, Mich.

TRADE NOTES

We have for sale from Los Angeles, California, office the following used foundation machines which we offer at bargain prices.

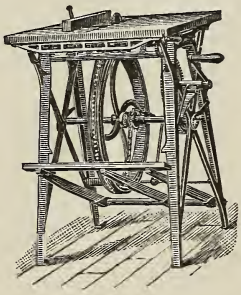
One 12 x 2½-in. medium brood mill in excellent condition, nearly new; has had a small tack run thru which spoils the looks of foundation for sale, but is no detriment in actual use. We offer this for $25.00.

One 10 x 2½-in. light brood mill in fair condition. Will still make good foundation. Price $20.00.

One 6 x 2½-in. thin super mill in fair condition. Will sell for $10.00.

One 6 x 2½-in. extra thin super mill in fair condition. Price $10.00.

The A. I. Root Co., 948 East Second St., Los Angeles, Calif.



BOOKS AND BULLETINS

"Wilderness Honey," by F. L. Pollock.

Reviewed by Morley Pettit.

Few apiarists, and scarcely any one outside the profession, would believe that so many really thrilling adventures could be experienced in beekeeping as Frank Lillie Pollock has crowded into one short summer of the heroes of this, his latest novel. They are all true to life, and, with variations, might happen to any young adventurer in this fascinating pursuit under similar conditions.

Left orphans and in poor cimcumstances a girl and her two young brothers purchased an apiary in the wilds of Haliburton, Ont., where they spent the summer in a log shanty. Their bees robbed and fought and stung, and gathered honey. In turn, they were robbed by a halfbreed squatter, and the young beekeepers' method of finding the stolen goods is one of the best features of the story. They placed three hives of bees near the squatter's shack during a time when no honey could be gathered from flowers, and the bees very soon discovered the stolen honey.

Wisely the author, who, by the way, is an experienced beekeeper, has not overdrawn the agreeable and profitable features of beekeeping, for the usual honey-flow which was expected from wild raspberry and basswood proved almost a failure, and his description of the unpleasant experiences of extracting with sticky honey and crawling bees is most realistic. A very fine point which only a beekeeper would appreciate occurs where the freshly extracted supers are left out of doors by the young beekeepers who were too tired to look after them. The beekeeping reader holds his breath over the excitement this would cause in an apiary until he learns that a heavy flow of honey from willow herb had begun early the next morning.

The story, which ran first as a serial in the Youth's Companion, and now published by the Century Co., of New York, was written especially for boys and girls, but will be found intensely interesting by any one who has kept bees, as well as both thrilling and instructive by those who have not had that experience.

The book is unique, and might be called epoch-making in the sense that it is, perhaps, the first complete novel based on adventures connected with beekeeping; and while the author has taken certain liberties with the behavior of the bees which he considered necessary for the development of his plot, it is much more nearly true to bee-nature than most books on bees which have been published for popular reading outside the recognized practical works on bee-management

AROUND THE OFFICE

M.-A.-O.

I had every last sort o' good intention to turn over a new leaf New Year's Day, and get away to a new start about language. I did. But you all will see just how I couldn't under the circumstances, for you'll take notice right away how I just had to lug the old year over into the new one, finishin' up that trouble that started onto me all to oncet out in my old barn one night the last part of November. So I suppose here goes for another year just like all the others, no better and probably some worse—all on account of other folks' interferin' with me as an author.

* * *

Well, I got that durnation censor clamp unloosened from that article I began in December Gleanings and wasn't allowed to finish up. I told the Roots I had a whale of a good moral attached right onto the end of it, and they said if that was so I could finish it this January number. So I am going to.

You readers will remember it was about something that happened to me in my barn where I had stored potatoes in the old horse stall with no siding on it and gone fishin' with my neighbor Lutz when praps I ought to have got those potatoes all the way to the cellar and been prepared for the cold snap that came up so awful suddent. I told you how I outmaneuvered my wife by staying over at the office till dark and got by her and into the cellar on the way to the barn a-sailin', and nothing very cheerful for me goin' on anywhere. As I was saying, I was just wishin for the company and comfortin' assistance of my neighbor, Ab Lutz, to help sort and carry those potatoes into the cellar. He was more to blame for my leavin' off work and goin' fishin' the afternoon before than any one else was. About half of all this summer he's been tantingly waving a fish-pole over my backyard fence—if the Mrs.

Around the Office—Continued

didn't happen to be mixed up in our back-door landscape somewhere. The fishin' industry would die out completely for all of her. Ab 'most always succeeded in overtempting me that a way, too. But he never comes around brandishing a hoe. Not Ab. And he didn't come this time. So I got out to the old barn alone except for my own surging thoughts, and began on those potatoes. I got the first two bushels sorted by hand-feeling, and then looked around for the wheelbarrow to wheel them up to the house. But you don't find a wheelbarrow after night that you left off using in a hurry just before going fishin' the day before. I never have, and I didn't this time. So I humped myself to it and carried those two bushels and sixteen other just as heavy bushels of night-sorted potatoes into that dark old cellar of mine and dumped them into the potato-bin there. I had got to the very last bushel of potatoes, most of which had rolled away up under the feed-trough in the old horse-stall, and it was back-crackin' and soul-wrackin' work to get the lifeline to 'em. I was talking more or less to 'em continuously about why they had to roll away up under that feed-trough, anyway. But I finally got the last one aboard the basket, and was trying to straighten straight up in the gloom of the stall and see if my backbone would ever come together again and the pieces work together as a reunited and happy family of spinal vertebree, when—great geewhillikens, Jehu, John-Henry, dadbust it, dingbing it (rest all censored). * * *

Around the Office—Continued

What it was? Yes, and what was it also? Furthermore, what could it have been, too? Where was my right eye? Also my right occipital bone and upper right clavicular cheek bone? Had they suddenly left for good? Were they on the stall floor or out in the cold night on the ground? Was there more of me left or was the most of me knocked off? Had the old barn fallen on me, or had I knocked the old barn off its foundation unintentionally with my right eye and right side of my face? Which? It was too dark for my left eye to gather any general information on the subject, even if the newly discovered stars and constellations hoverin' around just then had not been so everlastingly dazzlin' and attractive. But as general pain feelin's and comeback from shock set in, things got more normal, and some part of me finally located the hand'e of my old lawn-mower cussedly and firmly sticking downward about eye-high in the exact latitude and longitude where I had just been trying to straighten up and reconstruct my late backbone. That must of been it. It was so voted by me. I had put the lawnmower up in there instead of in the toolhouse about the time the last rose of summer was left bloomin' alone. You can usually put a lawn-mower up for winter in any old place where it will stick in, a good deal easier than you can put it where it belongs. It saves labor also. It may, moreover, wear out a good deal quicker and you can then tell your wife you ain't got any more money to buy lawn-mowers with and you will just have to get along without one for a few seasons or until you get a whale of a honey crop. But I didn't admit that lawn-mower handle's right to dismantle the right side of my face, even if I had put it up there as perhaps I oughnter. It was no time for it to do it in the dark, anyway, secret and just after I had been sorting and carrying away eighteen bushels of potatoes to save them from freezing. Not by a jugful. I was madder than my fishin' neighbor, Ab Lutz, was oncet when his old cow swished her tail across his face when he was milking her in his barnyard. He bit right in to her tail with all his teeth, he did, and when as resulting from the bite she started right out prompt to see and visit all the adjoinin' country he hung right on, keeping his teeth-and-tail holt till she brushed him off down among the trees in the woods. That's just about how mad I was. So I had got along to about the 17th language stanza and the 331st crack at that ding-binged, son-of-a-sea-cook of a lawn-mower handle with a three-by-four scantlin' that I clawed and gnawed

Around the Office—Continued

off the side of the stall for the purpose, when the whole ding-busted lawn-mower, handle and all, hopped out of the old feed-trough, and, after tipping over the basket of potatoes on the floor, rickochetted off on to my right foot. I don't know why that made me think of my wife—but it did. What it made me think especially of was how all that evening, every time she would hear me emptying another basket of potatoes into the old bin down in that dark old cellar of mine she would strike up singing, "Work while the day grows brighter," etc.; and if I had got away back even to the barn before she had got to the last line about "Work for the night is coming when man's work is done," she would come to the back door and whoop up that last line till they could hear her over into the next county. It was a perfectly good Sunday-evening prayer-meeting song, but it just struck me all in a heap right there and then that she hadn't been singing it that way. I say I thought of this point very strongly just as the ding-binged old lawn-mower knocked over the potatoes and then pounced on my right foot. So I started for the house, with only one foot and only one-half of my face working. But when I got there I was able to begin telling her right away. Most of it was about her singing and her everlasting foolishness about always having to have potatoes for the family. I didn't let her get in a word edgewise—and she was expecting to do most of the talking, too, when we met next. She thought she had all the argument on her side. But a man ain't the same man toward a wife when a 65-pound lawn-mower has just dropped five feet onto his right foot, and when he has got a lawn-mower handle stuck thru the only right eye he'll ever have, and all this just as a result of harvestin' potatoes after dark for her family. No, he ain't the same. He ain't ever the same for several hours—and I ain't even now, eighteen hours later. I don't know when I ever will be again. I ain't cowerin' around home now any more nor making any excuses about all the times I went fishin' last summer or about putting off the potatoes till so late. I told her to her face, square in her eye, that I wished to heckalorum those potatoes weren't dug yet and that I was glad the ding-binged old lawn-mower was busted, and if she wanted that last bushel of spilled potatoes she could just go and pick 'em up

Around the Office—Continued

herself or go to Timbucktoo just as she pleased.

That's why I say just what happened to me out in my old barn last night I wish had a-happened to the whole shebang of these Roots and all these other goody people that are choking me off from natural expression and so paralyzing a good many of my profoundest thinks. I'd have just liked to have been there secret and seen if they would have said: "Oh, dear me! How painful it is! I must go right into wifey and tell her how it all happened!"

[A week later.—I am awful sorry I wrote the above now. I wish it hadn't a-been printed. I would unprint it now if I could. I see I was unreasonable about the potatoes and the lawn-mower, and thirdly about my wife. I apologize to the potatoes and the lawn-mower. Things also are getting normal at the house again and I have taken back my old commission as second lieutenant in the Home Co., N. G. A fellow's awful foolish to get mad that way. I made just about such a enormous fool of myself as my neighbor Harvey Beach did with his pigs last spring when the sleet and ice storm was on. It got 'most all-fired slippery that time. Ice everywhere. Harvey had put off carrying the swill out to his pigs for two days, telling it was dangerous it was so icy. He is naturally of a sort of waiting and shy disposition about advancing too tumultuously on any form of labor. But when both his swill-pails got swimming full he just had to go, ice or no ice. He was balancing along, one foot then another, and got all safe 'most up to the hog-pen when those dozen or more half-choked hogs came squealing and grunting out to the outside trough. Harvey says they rattled him. Any way, he changed

Around the Office—Continued

ends all of a suddent, feet up, and what swill didn't go all over him went on the ground. He managed to get on to his feet after sprawling around about five minutes more or less, madder'n a wet hen, and the first thing he did when he was fairly riz was to use some perfectly awful language to them pigs. He told them they were nothing but gol-durned hogs any way and never would be anything else, that they had always been too ding-danged hoggish for anything, anyway, and were yet. Then he let fly at them with both the swill-pails just as hard as ever he could. That upset him again harder than the first time. It sort of shook him so that he had to crawl over to the fence and pull himself up by the rails. He ain't a young man—only in temper. He rested a minute, but kept talking awful strong to the pigs. He then grabbed the top rail off the fence and started after those hogs hillycalarrup. He fell down and clawed around on the ice a dozen times till he hadn't any breath left to talk with—and never got within ten rods of a pig, either. He got back to where his swill-pails were and then he jumped on both of them till he had smashed them all to pieces. He said he'd teach 'em to trip him up. He then went into the house—or crawled there, black and blue pretty much all over—and everlastingly gave it to the poor women folks for being such everlasting ding-dinged fools as to save up swill at all for the pigs when a sleet storm was on. He then had to go to bed and couldn't get up for a week—just so sore and lame he was. So I say it don't pay to get red-white-and-purple mad and make a everlasting fool of yourself. Not by a durnd sight it don't.]

Special Notices by A. I. Root

A "GRISTMILL," FOR HOME GRINDING.

One of our readers criticises the little mill that we mentioned some time ago for grinding wheat in the home, and referred me to what is called the Blackhawk gristmill made by A. H. Patch, Clarksville, Tenn. This mill is a good deal like a coffee-mill, but on a considerably larger scale. It has a crank a foot long, which gives plenty of power to grind corn, even if it is very hard and dry, and some of the flint varieties. We find this mill does excellent work for both wheat and corn. You can grind fine or coarse as you choose. But if you wish to make any speed in your grinding it takes considerable muscle. A strong girl or boy would probably keep it going right along; but if I had to do the grinding for a family of any size I think I should want to hitch on electricity or some kind of power. The mill costs $3.00, and will be delivered here in Ohio for $3.50.

There is one thing I like about such a mill, especially for grinding new corn. As Indian meal does not keep very well it is better to grind it a little at a time. The corn meal on the market has the chit (perhaps the most nutritious part) removed just because it is so liable to mold when ground, chit and all. I think you will find your home-made meal, when ground only as you need it, is quite a little ahead of the corn meal you buy at the grocery; and I hardly need tell you there is a tremendous saving in making the shortest possible cut between producer and consumer, or, in fact, letting the producer and consumer be one and the same person as far as possible.